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JOURNAL OF

# AMERICAN INSURANCE

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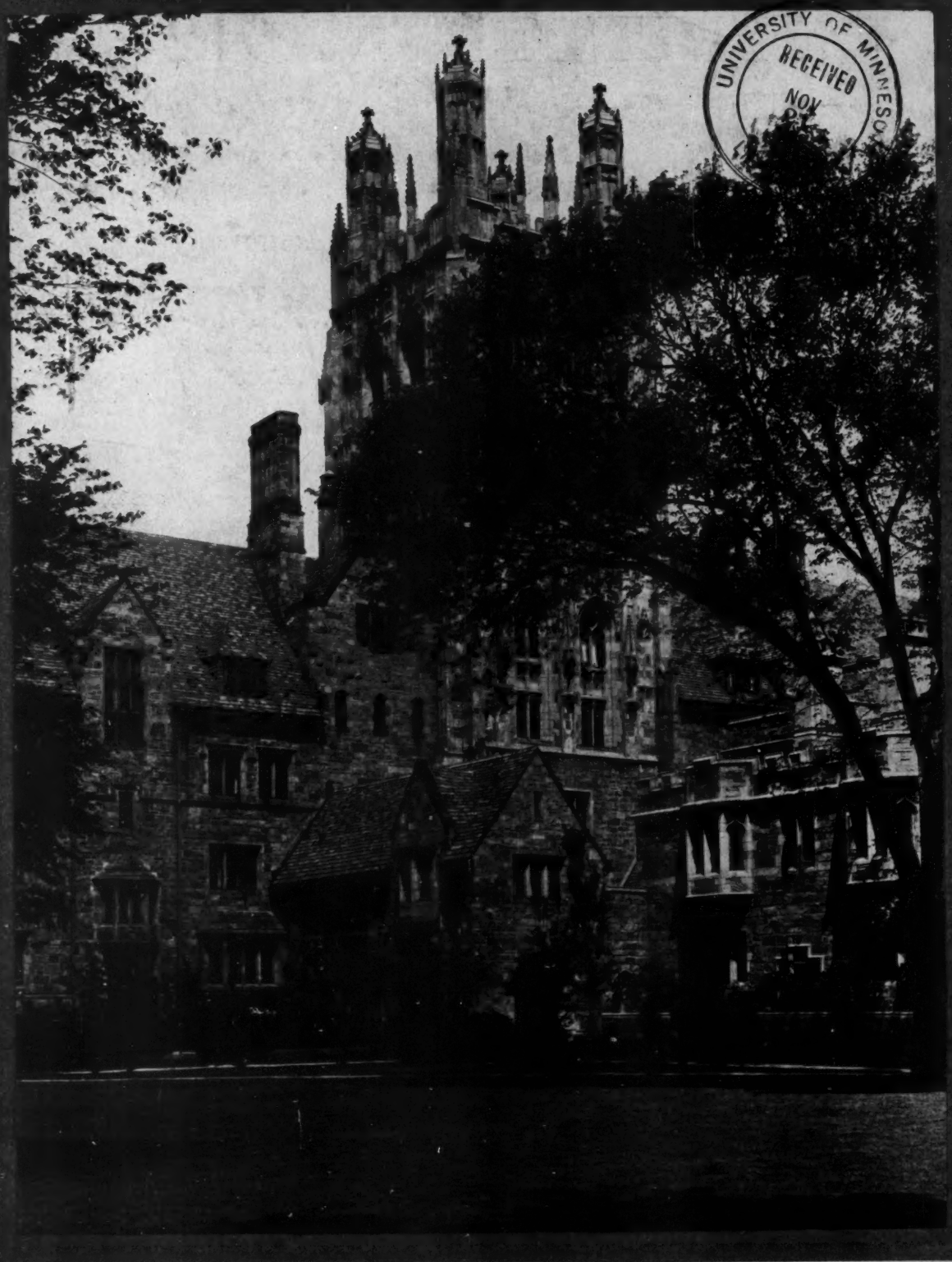

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*THE new President of the National Association of Mutual Insurance Companies is a man who has won a high place in Mutual circles. Besides being Secretary of the Patrons Mutual Fire Insurance Company of Fremont, Michigan, Mr. White is President of the Michigan State Association of Mutual Insurance Companies, Chairman of the Fire Prevention Committee of Fremont, (which city won the U. S. Chamber of Commerce Fire Prevention Prize) a member of the Fremont City Council, a banker, a college man and all round good citizen. The National Association is to be congratulated on having this fine type of executive as its President.*

# Fire Insurance Adjusting

## *Difficulties Encountered By the Man Whose Business it is to Probe the Ruins and Estimate the Damage*

By A. T. PERSSON
*of Chicago, Illinois*

*From an Address Delivered at the Recent Mutual Convention in Milwaukee*

WHAT are the general problems with which an adjuster is confronted? The conception which I hold, I think is well illustrated by a letter received some years ago in connection with the payment of a death claim on a policy of life insurance. The letter enclosed a check made payable to the beneficiary. One of its paragraphs read something like this: "In handing you this check, the company fulfills the obligation which it undertook when the policy was issued forty-three years ago."

This is the function of an adjuster with respect to insurance and his problems are those which have to do with his exercise of this function. It is his niche in life to be a vehicle by means of which the company may fulfill the obligations undertaken in the issuance of policy contracts.

No work is more fascinating than the adjustment of losses. It has its problems, so does everything else—most of the problem are interesting, a great many of them are different, and we are from day to day meeting new conditions and new problems. We solve them somehow and get enjoyment out of doing it. We run into all kinds and classes of people and very often find rugged honesty, virtue, and humor in the most unlooked for places. By and large, our problems may be divided into three general subjects. First, the assured, second, the property destroyed or damaged, and, third, the application of the policy conditions.

I need not remind you that an adjuster must be a diplomat, that he must be sympathetic, that he must be patient, that he must possess broad knowledge of business and values and have an unusual degree of mental flexibility. Some one once said that the adjusting profession was made up of men who had failed in every other branch of the insurance business. That condition, however, does not exist to any great extent and I dispute the thought that a man who fails in any other branch of the insurance profession could ever become a successful adjuster. If you will consider the tremendous sums of money paid out on the recommendations of your company adjusters, you can hold to no different opinion.

Nor can any man, however intelligent, properly fulfill the adjustment function until he has had considerable training, for in the school of experience he learns a great many things which he could never learn in any other way. Imagine, for example, an adjuster who has assigned to him a certain loss. He calls on his assured, looks over the damage, requests to see the policies. He advises the assured to the effect that the next thing to do is to comply with the conditions of the policy contract—"separate the damaged and undamaged personal property," he says, "put it into the best possible order and make complete inventory of same, and so on." Before he leaves he fills in an adjuster's report, he asks the assured, "Have you ever before suffered a fire loss? If so, when, where, and how much? Have you ever had a bankruptcy or failure? How did this fire start? How do you think it started? Well, after you comply with the conditions of the policy contract, etc.,

Photo by P. & A.

*Adjusters Have the Gloomy Job of Directing the Crew that Pokes Among the Ashes for Salvage—and Evidence*

give me a ring. Here's my card. And I will come out again."

The assured is a little upset. Here is his plant in ruins, the work of a lifetime is "shot." The adjuster is certainly a cold-blooded proposition. What did he mean by that business, "Did you ever have a fire? Did you ever have a failure? Great Caesar! Did that fellow insinuate that I had anything to do with this fire? 'Make an inventory'—how can you make an inventory of this mess? 'Put it in order'—how can you put this junk in order? Here I am surrounded by ashes and wreckage and this fellow comes out like an undertaker to bury me. Cold-blooded — he never even felt sorry for me."

Of course, it never occurs to this assured that all the adjuster ever sees is wreckage and ashes, all he ever has anything to do with is ruins, grief, and trouble, for as far as the assured is concerned, there is only one loss in the world, that is his own, but if that particular loss happened to be yours, or mine, we would probably feel just as he does. That particular loss, at least as far as he is concerned, is the most important loss in the world.

The successful adjuster—the experienced adjuster — knows that the most important point in connection with the adjustment of a loss is, first, to adjust his assured. It is only reasonable to expect that immediately after a fire, especially if that fire is of any consequence, the assured will be up-set. He needs careful handling, he needs somebody to talk to, someone who understands a situation such as this and will listen. He needs encouragement. He doesn't care anything about the conditions of the policy contract, that is not the angle that worries him. His business is gone, he is out of production, he wants to get back into business to hold his customers—he needs help.

The successful adjuster listens to the assured. He may have heard the same story a thousand times before, but he listens just the same. He sympathizes, and in a quiet way he attempts to handle the assured in such fashion that the assured will have confidence, not only in his ability, but in his integrity, in his sincerity, in his judgment. He will make a friend of the assured, or attempt to—he will find that by so doing the adjustment of that particular loss will be greatly simplified. The adjuster might even call the assured's attention to the fact that, while the loss is severe, and while his troubles are by no means trivial, think what they would have been had he not had the protection afforded him by his insurance contracts. There is a problem, a problem of how properly to handle the assured, how properly to build the adjustment of a fire loss on a firm foundation.

In this same connection, the temperament of the assured must be considered and it is for this reason that the adjuster must be so flexible himself. Recently I was associated on a loss with another adjuster. The assured took a distinct dislike to my co-adjuster and in pressing him for the reason for this attitude in this respect, he stated that the gentleman in question had laughed at his figures and he did not like him for this reason. It may be said in passing

that the claim was grossly excessive yet there was no question as to the origin of the fire. The origin was honest, but the assured was mistaken in the amount of his claim. I said to him. "Well, I laughed at your figures, too." And he said, "I know, but you laughed in the right way." So, you see, one of the problems in connection with the adjustment of a loss is how to laugh properly.

The problem of obtaining the raw material in the form of young men and training them for use in an adjusting organization is perplexing. It is not alone one of finding men who have the fundamental qualifications of patience, perseverance, evenness of temperament, ability to meet people in all walks of life from the presidents of large companies down to the most ignorant classes, and who wish to adopt adjustment work as a profession for the love of the work itself. In order to interest a man with the requisite qualifications something of a future by way of opportunity must be afforded, opportunity commensurate with that offered in other professions. I hope you will not misunderstand this. I do not mean the adjuster is entitled to earn fabulous sums of money without limit, but do mean that a man carrying the responsibility which an adjuster does, where the opportunity for careless or inefficient work is likely to be so costly, should not be placed in a position where there is no incentive to progress. He must be allowed to earn enough so that he can put something away for a rainy day and for his old age, so that he can properly live and associate on a par with those with whom he must deal.

When a man is limited so that he cannot do these things, which are so essential to his comfort and peace of mind, the best forces in him are destroyed and he ceases to be the kind of talent, which, in the long run, means a saving to the insurers. It is possible to get men who may be labeled adjusters at almost any price, but the men you would like to have, the men you should have, will seek other lines of endeavor if the insurance adjustment profession ceases to offer the proper remuneration.

This fact is pointed out that you may understand the problem with which many adjusting firms are confronted — that of securing material for understudies to carry on. The problem of obtaining assistance may, therefore, be given considerable thought.

Turning now to the assured, let it be said that where there is no question as to the sincerity or the origin of a claim, an adjuster can do grave harm to his principals in underpaying or attempting to underpay an honest loss. Subject to its expressed limitations, an insurance policy is a contract of indemnity and should, insofar as it is able, indemnify the assured for as much of the loss as is possible, not as little as possible. Much adverse legislation has been enacted by reason of some adjuster not having in mind the Golden Rule.

Now on the other hand, carelessness on the part of an adjuster in handling the details and not ascertaining all of the facts has resulted in the over-payment of losses, with the result that unquestionably subsequent losses have occurred which ordinarily would not have, but for the reason that someone has learned of the overpayment and it occurred to him that defrauding the insurance company was a simple matter.

Again we meet the assured who has suffered an entirely honest fire as to origin. Such an assured may bear a first class reputation and al-

though he would not go out of his way to do a dishonest act in any other circumstance, he would not hesitate to collect from an insurer what he knows to be an amount in excess of the actual loss sustained, easing his conscience by the thought that in any event there are a great many losses in connection with a fire not insurable which are nevertheless actual, and that in the aggregate by reason of the trouble, expense, and aggravation he has been caused, even in the event of over-payment, he certainly is no better off than he was before the fire.

Photo by P. & A.

*An Adjuster's Knowledge of Merchandise Must Embrace Many Lines From Car Wheels to Safety Pins. What Seems Junk to Others May Mean Thousands to Those Who Employ Him*

Still another problem which very often confronts an adjuster is the one of over-insurance on fixed values, that is, insurance carried on buildings, fixtures, machinery, and so forth.

A loss occurs, the property is destroyed. The building and equipment are old. Based on a fair replacement value, less a reasonable depreciation, the property is overinsured. The assured cannot see it. He purchased the insurance, paid the premium, the property was there at the time the insurance was written, there has been no change since, why didn't the insurers look at it, why didn't they inspect it? Why didn't they ask at the time the policy was written whether or not there was any other insurance in force? The policy form gives permission for other insurance. How was the assured to know that one group of insurers thought they were carrying all of the cover?

The adjuster attempts to demonstrate to the assured, based on the estimate of a reputable contractor, the present day replacement value of his property. He attempts to demonstrate to him that it is only reasonable that property of such an age should be subjected to a minimum depreciation of so much. But the assured does not understand it — he carried insurance and always considered the property was valued at the amount of insurance. The building was always kept in good condition, he always thought he was carrying it at a fair value—and now, after the building is destroyed, the adjuster who has never seen it before, who has never seen the building when it was in good condition, attempts to convince him it was over-insured. Conditions such as this at times present real difficulties.

There is another familiar problem with adjustment of the assured. This problem which gives an adjuster more worry and grief than any other is the one of conflicting, non-concurrency, and ambiguous phraseology. The assured purchases insurance, and when he does it is impressed on him that he must carry insurance to the extent of 80%, 90%, or 100%, as the case may be, of the value of the property insured, and if he does not he will be co-insurer. However, as long as he carries insurance to the extent of the required amount as shown by the policy contract, he is all right and will collect the full amount of his loss up to the amount of the insurance.

Now, then, a loss occurs. The adjuster finds that the assured has not placed all of his insurance through the same channels. He has purchased from possibly two, three, or four different sources. Some of the policies cover specifically on stock, some cover specifically on furniture and fixtures, and some of them are under contents form. The adjuster agrees with the assured on the amount of loss and damage and the sound value of the property. The insurance, in the aggregate, is more than the percentage to value required by the contribution clause. As a matter of fact, the total insurance may be in excess of the sound value of all property insured, but, by reason of non-concurrency in the policies the amount collectible is limited and the assured cannot collect his full loss. He doesn't understand it, he doesn't understand non-concurrency, he knows he purchased insurance and in the aggregate he carries enough insur-

*(Continued on Page 31)*

Photo by P. & A.

*Whatever It Is That Has Happened, Some Insurance Company Is Likely to Bear the Loss in the Final Analysis*

# Subrogation and Contribution

## *Two Features of Fire Insurance Often Little Understood by the Policy Holder But of Much Importance in the Commercial World*

By AVARD L. BISHOP
*Professor of Business Administration*
*Yale University*

SUBROGATION has been defined, in connection with a court finding in the State of New York, as the "mode which equity adopts to compel the ultimate payment of a debt by one who, in justice, equity and good conscience, ought to pay it." This, of course, is a general definition of subrogation without any particular application to insurance or other specific types of contracts. Quite apart also from its direct application in insurance contracts, subrogation might be defined from another viewpoint as the transference of creditorship rights or other similar claims by one party to another, this substituting in the place of a certain creditor another person possessed of his rights in respect to a certain definite situation.

With regard to insurance contracts, the insurance companies are vitally concerned with the doctrine of subrogation and its practical application because there are involved possibilities whereby a company that has paid any particular claim may find itself able to be reimbursed for such payment. For example, let us suppose that John Doe owns a house worth $20,000 and that it is amply covered with fire insurance by the ABC Fire Insurance Company. An unscrupulous neighbor, X, who, nevertheless, is in good financial standing, we will assume, sets fire to the insured property, and the loss is adjusted for $10,000. The ABC company indemnified John Doe in full for his loss. The company then receives from John Doe an assignment of all the latter's rights of recovery against X for the loss sustained. Under the doctrine of subrogation and what it involves, the ABC company could then, in all probability, recover from X the $10,000 it has paid to John Doe; since, according to the definition quoted above, subrogation is the method which equity adopts to compel ultimate payment by the party who in justice should settle the bill.

THE New York Standard Fire Policy contains the following statement under the head of subrogation:—"This company may require from the insured an assignment of all right of recovery against any party for loss or damage to the extent that payment therefor is made by this company." In other words, the doctrine of subrogation in its application to insurance contracts involves the substitution of the insurance company for the person who has received indemnity whereby the latter transfers certain rights, that he has against certain other parties, to the insurance company, making it possible, in such instances, for the latter to undertake to be reimbursed for losses that have been paid. It may shed some additional light upon the application of subrogation in fire insurance to quote from the old New York Standard Fire Insurance Policy which was replaced a few years ago by a revised form. The wording was as follows: "If this company shall claim that the fire was caused by the act or neglect of any person or corporation, private or municipal, this company shall, on payment of the loss, be subrogated to the extent of such payment to all right of recovery by the insured for the loss resulting therefrom, and such right shall be assigned to this company by the insured on receiving such payment." It might be added that even though the fire policy were silent with respect to subrogation, the insurance company would still possess this right but might find it difficult to secure from the insured assignment of right of recovery against third parties.

Another specific case (instanced by most writers on subrogation) whereby the doctrine of subrogation may be invoked is where the negligence of a common carrier, a railroad company, for example, has clearly been the cause of the loss of goods by fire. On the assumption that such goods have been insured by a fire insurance company, their owner or owners would be indemnified by such insur-

ance company for the loss suffered, but the fire insurance company which has paid the loss would under the terms of the New York Standard Fire Contract receive an assignment from the insured of all rights of recovery against the railroad company in question. If a court of law established the fact that the insured had no right of action against the railroad company there of course has been no transfer to the insurance company of rights, for the insured cannot transfer that which he has not. Furthermore, according to the practical application of the doctrine of subrogation, the insurance company can undertake to recover from the railroad in question not to an unlimited amount, particularly over and beyond the amount of the claim that has been paid to the insured, but only up to the extent of the payment that it made to the insured. This is an important point to remember in connection with rights transferred to others involving subrogation.

SO far as common carriers are concerned, a decision of the United States Supreme Court, from which we quote below, elucidates the right of subrogation: "It is too well settled by authorities to admit of question, that, as between a common carrier of goods and an underwriter upon them, the liability to the owner for their loss or destruction is primarily upon the carrier, while the liability of the insurer is only secondary. The contract of the carrier may not be first in order of time, but it is first and principal in ultimate liability. In respect to the ownership of the goods and the risk incident thereto, the owner and insurer are considered but one person, having together the beneficial right to the indemnity due from the carrier for a breach of his contract, or for nonperformance of his legal duty. Standing thus, as the insurer does, practically in the position of a surety, stipulating that the goods shall not be lost or injured in consequence of the perils insured against, whenever he has indemnified the owner for the loss he is entitled to all of the means of indemnity which the satisfied owner held against the party primarily liable. His right rests upon the familiar principles of equity. It is the doctrine of subrogation, dependent not at all upon the privity of contract, but works out through the right of the creditor or owner."

Before closing our discussion of subrogation, it may shed some additional light on the subject to remind the reader that there are innumerable cases where fire insurance claims are paid by fire insurance companies where the doctrine of subrogation has no application whatsover. In other words, the circumstances surrounding the loss have been such that no third party has been involved so that there is no possibility of the fire insurance company recovering, under the doctrine of subrogation, from a third party. For example, if lightning strikes a building and it is damaged or destroyed by fire there is no third party here involved upon whom the blame for the fire may be placed. The loss clearly was due to a force of nature over which man has practically no control. Speaking technically, the stroke of lightning was "an act of God" so that no subrogation rights here appear. Again, the owner of a house might retire at night without placing the screen in front of the fireplace, in full belief that the coals could do no damage. If, however, a spark ignited some paper and eventually the fire spread until the house was burned, no third party can possibly be blamed for the loss. In this case, assignment to the fire insurance company by the insured of right of recovery against

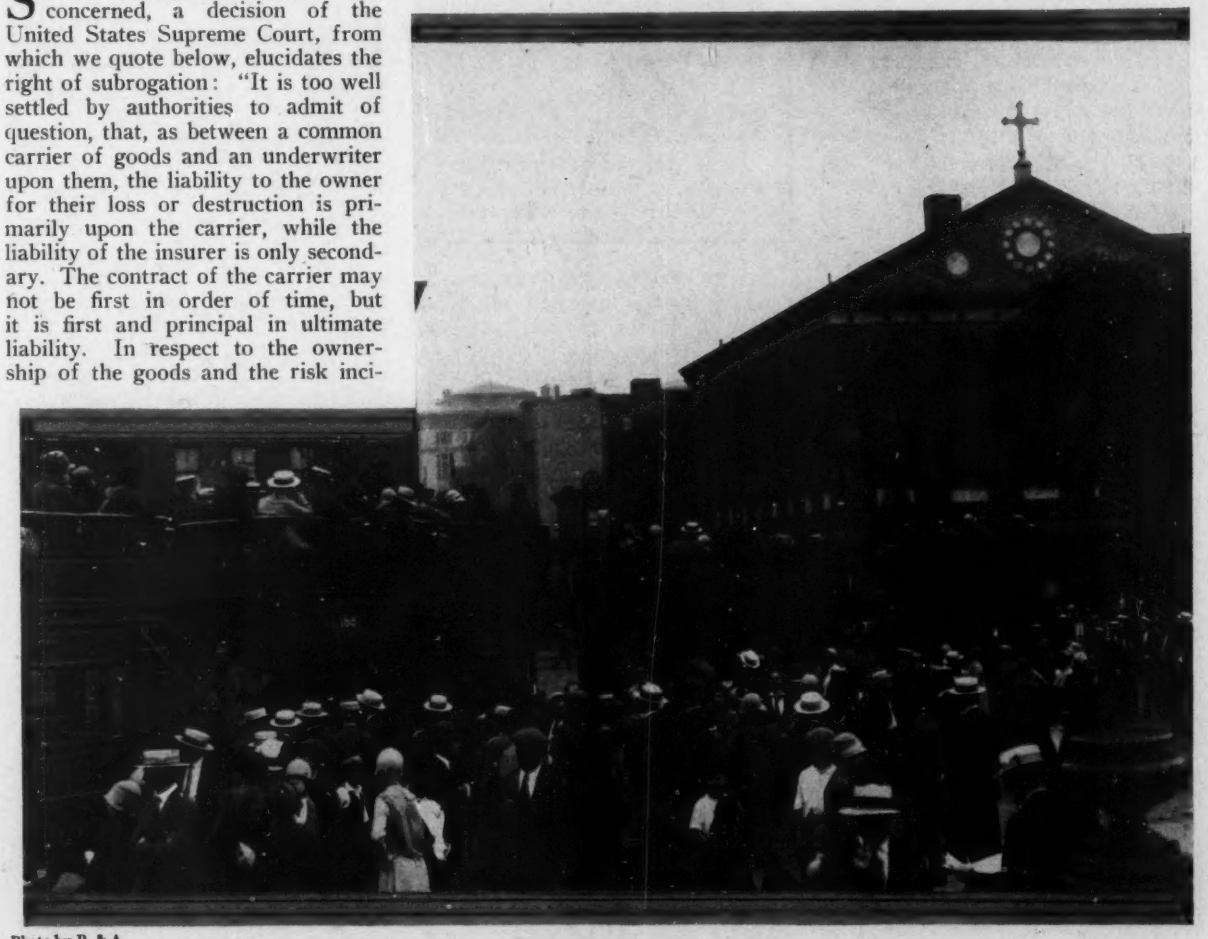

Photo by P. & A.

*If You Ever Try to Catch a Bus on Fifth Ave. When the Rush Hour Is On—Watch Your Step*

## Subrogation

*(Continued from preceding Page)*

any party for loss or damage would mean nothing, for there is no one from whom the fire insurance company could recover. Sugrogation, then, so far as it applies to fire insurance contracts, rests upon the possibility of recovering damages from a third party (or parties) upon whom a court of competent jurisdiction would adjudge the responsibility for the fire rested.

### *Contribution*

CONTRIBUTION is often referred to under the head of pro rata liability. It is dealt with in the main text of the New York Standard Fire Insurance policy as follows: "This company shall not be liable for a greater proportion of loss or damage than the amount hereby insured shall bear to the whole insurance covering the property, whether valid or not and whether collectible or not."

Most people who buy fire insurance coverage know little or nothing of the principle of contribution. This is easily explained. In the first place, it has no practical application until a fire has taken place and, therefore, never becomes a question for serious consideration when the insurance coverage is being purchased. Also, as everybody knows, only a small fraction of the fire insurance policies that are isssued ever are involved in a claim, so that innumerable fire insurance purchasers go on year after year without knowing anything in a personal way of contribution. In the second place, in that considerable percentage of insured risks where only one fire insurance company is involved, contribution has no application. On household effects, for example, the coverage in a large proportion of instances is for small sums from five hundred to a few thousand dollars so that, excepting in cases where the coverage is for a relatively large sum, a single company carries the risk. Also, on small inexpensive dwellings (of which there are legion) a single company may carry the whole insurance coverage. In all such cases, we repeat, when the subject of insurance is of relatively small value the principle of contribution can receive no application; for it is only in cases where there are at least two fire insurance policies involved, issued by two different companies, that contribution arises, and then only when there is a loss to be adjusted.

LET us assume for purposes of illustration a relatively simple instance of contribution. Two fire insurance companies, A and B, each have issued policies for equal amounts on a dwelling house valued at $10,000. Each policy is for $5,000 and the policies, let us assume, are concurrent. There is a total loss. Under these circumstances each company pays $5,000. Assume again that the same building is covered by two policies in two different companies, A and B, of which A is involved for $7,500 and B for $2,500, and that a loss of $1,000 occurs. Inasmuch as, according to the clause quoted above, company A (or B) shall not be liable

**THIS MONTH'S COVER**

*Harkness Tower at Yale University Overlooking Harkness Quadrangle*

for a greater proportion of the damage than the amount insured bears to all of the insurance on the property, company A should pay 75 per cent of the loss and B 25 per cent of the loss, and this is the way it would be adjusted. From the above, the application of the principle of contribution should be clear, and there is no problem in distributing the loss in relatively simple cases. Unfortunately, however, all cases of loss adjustment are not of this sort, with the result that there arise in actual practice many extremely difficult problems in the work of adjusting fire losses.

One of the difficulties here involved is traceable to the fact that different policies of insurance issued by different companies covering the same subject of insurance are not concurrent. By this we mean that the contracts are not identical. For example, it would be quite possible that two different companies have insured a risk and that one of the policies contains a three-fourths value clause, while the other has no similar clause attached to the policy. Again, one company might have covered the risk without any enumeration of the amount of coverage on any particular parts of the risk; whereas the other company might have granted a specific amount of insurance on each item of property. Instances, such as the above, result in what are known as non-concurrent policies and are likely to result in a form of settlement, in the event of a fire, which is not at all agreeable to the insured. It cannot be too strongly emphasized that insurance agents should take particular care where more than one company is covering a risk to see to it that the second and later policies that are issued are identical with the first; or, if the first policy is unsatisfactory in any particular respect and not strictly up-to-date, it should be put in the most satisfactory condition by the addition of the necessary endorsements and then all later policies should follow an identical system of coverage. In this way the policies would be concurrent and much trouble for the future be avoided.

IN closing, brief reference will be made to that part of the standard fire insurance policy quoted above, which refers to contribution. The latter part of the quotation contains the words "whether valid or not and whether collectible or not." It will be noted that the standard policy states unequivocally that contribution must be made in the event of a loss by invalid policies, also by policies covering the risk issued by insolvent companies. In brief, this means that policies issued by financially irresponsible companies, by companies whose policies for one reason or another are invalid, and by high-grade companies as well all contribute (assuming that all three exist) to the payment of the loss. This is a very important point for the insured to know about because if he has a substantial fire and some of the companies are not able to pay or have issued policies that are worthless, the insured stands to lose considerable by the fire, because the whole burden of the loss cannot be shifted to the financially sound insurance company concerned.

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Jo College—Hey, John, you car's sto'en!

John—Never mind. I'll wire the insurance company for another.

---

Women are great for humor. The more you humor them the better they like it.

# State Insurance and Its Extent

## *How Far Flung is This System of Protection of Property and Person In the United States and What of Its Future*

**By DAVID McCAHAN**

*Assistant Professor of Insurance*
*Wharton School of Finance and Commerce*
*University of Pennsylvania*

FORTY-FIVE state legislatures are scheduled to convene in 1929. Pet projects—for public welfare or political advantage—are already being whipped into shape by representatives of the people. And no prophetic vision is required to predict that many of them will deal with the institution of insurance. The remarkable development in this field of economic activity within late years and the billions of dollars accumulated for the protection of policyholders would hardly permit one to hope otherwise.

Accepting past experience as our warrant, we may expect coming legislative proposals to be directed into four main channels—regulation, taxation, compulsion and operation. (1) Few businesses are supervised and regulated by our various states so closely as is insurance. Assuming soundness of the principles underlying regulatory laws and sanity of judgment in their administration, the insuring public and properly conducted carriers should be universally benefitted. One might wish, however, for fewer laws, greater care in their formulation, and more uniformity between the states. (2) As respects taxation, insurance need not plead for special privilege. But on the other hand, it shoud not be subject to special burden as is now the situation in almost every state. Inequity permeates our present system of taxing insurance, and the only justification for its being is the facility with which it may be applied. (3) Social insurance measures, which compel the carrying of certain forms of coverage by legislative fiat, have not received in this country the widespread popular support that has been accorded to them in some foreign jurisdictons. Workmen's compensation insurance is the outstanding exception. Some form of insuring the autoist's financial responsibility bids fair to rank with it in the future, but this is decidedly in the experimental stages. Massachusetts has, it is true, enacted a comprehensive law, and some other states have placed modified measures on their statute books, but there is no unanimity of opinion as to the success of any. Just how far the state should go in demanding insurance protection against this or any other contingency of life is debatable, and involves social and political considerations too complex to discuss here. (4) In order that the state may provide the machinery for writing the coverage which it requires, there has been considerable pressure exerted to place the state in the workmen's compensation insurance business. But the insurance activities of the state have by no means been confined to that field. On the contrary, they have branched out into many and diverse lanes, so that today there are nearly one hundred state insur-

*In order to secure an accurate and authentic record of state insurance fund activities, Dr. McCahan travelled some 20,000 miles and personally visited thirty-seven states and the District of Columbia. The various types of funds which he studied are set forth in this article. Certain of them will be further discussed in subsequent issues. A thorough analysis of each type with particular reference to administration, nature of coverage, services performed, rating methods, expenses of operation, financial stability, loss prevention activities, state liability for solvency, and general record appear in a book entitled "State Insurance in the United States" soon to be published by the University of Pennsylvania Press.*

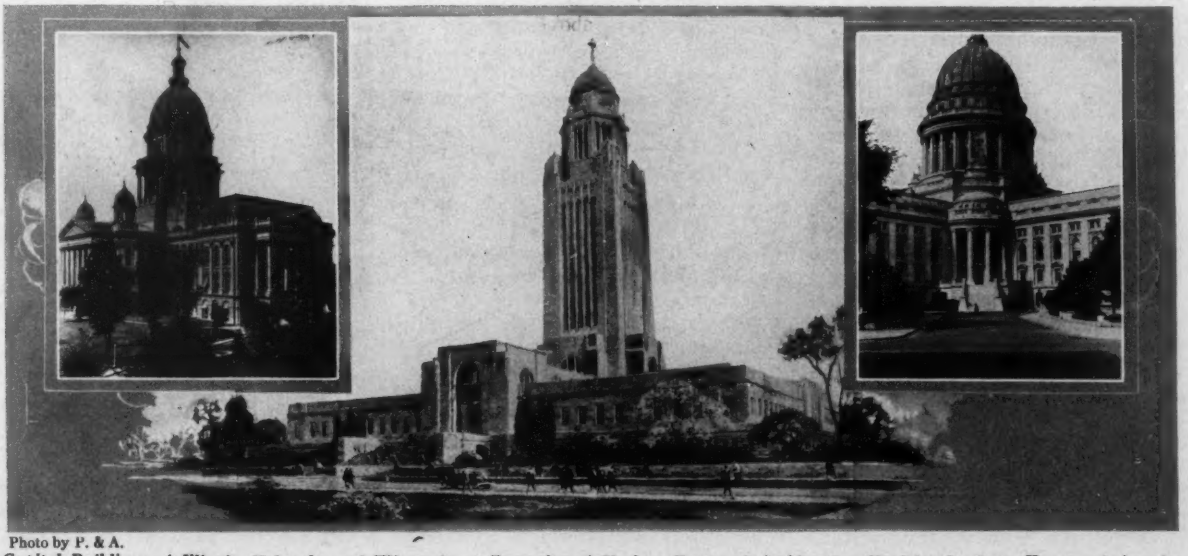


Photo by P. & A.

*Capitol Buildings of Illinois, Nebraska and Wisconsin as Examples of Various Types of Architecture Used in the State Houses of America.*

ance funds in operation with a combined income of at least eighty-five millions of dollars. Our further attention will be directed to a survey of these.

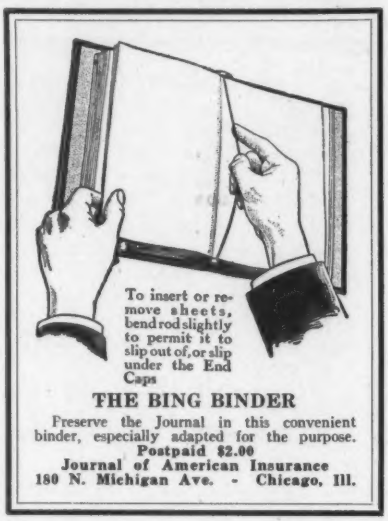
*The Rise of State Funds*

ALMOST a century ago the state of New York set up a bank guaranty fund to pay the debts of insolvent banks. Its bankruptcy a few years later soon concluded what appears to have been the first state insurance enterprise in this country. Vermont, about the same time, had a similar experience, but it was not until the end of the nineteenth century that any further attempts at state insurance operations were launched. From then until 1910, the most important state experiments were again in the field of bank guaranty, four funds for that purpose being created. Two teachers' pension, four public property insurance, one life insurance and eight Torrens title insurance funds complete the roll of other funds created within the same period. Since 1911, the growth in number, variety, premium income and significance has been quite marked. The geographical distribution of these funds and the years in which the statutes authorizing them were passed may be seen by referring to the table which appears on another page.

The funds operated by state governments do not by any means comprise the entire list of publicly managed insurance schemes in this country. The federal government runs a soldiers' and sailors' life insurance fund, parcel post and registered mail insurance funds, a pension fund for teachers in the District of Columbia and a retirement fund for civil employees of the government. Insurance and pension funds are also maintained by a large number of counties and municipalities. These are usually designed to assume fire losses on public property or to pay pensions to superannuated or disabled teachers, policemen and firemen. Were the income of all combined with that of the state funds, the total would approximate nearly a quarter of a billion of dollars.

In spite of the extent to which other public funds have developed, those controlled by the states are of paramount importance with respect to the future of governmental operation. This grows out of the peculiar relation which the state governments bear to the regulation and supervision of insurance as a result of the decision by the United States Supreme Court that insurance is not subject to federal jurisdiction under the interstate commerce clause of the Constitution. Moreover, social insurance plans must receive their sanction from state legislatures and so far as they entail public operation, the state is the political body most likely to assume its direction.

Although there are ten principal types of state funds, they logically fall within three groups, depending on whether the protection afforded is primarily for (1) public property, (2) employees of the public, or (3) private business and citizens.



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*Protection for Public Property*

DESTRUCTION of physical assets by fire, tornado or other hazard, defalcation or incapacity of public officials, and failure of depository banks are the principal causes of property loss to a state or its political subdivisions. Insurance against one or more of these has accordingly been attempted by some states.

*Fire and Tornado Insurance Funds* —In order to safeguard state buildings and their contents (also similar possessions of counties, municipalities and school districts in some instances) against the possibility of damage by fire and tornado, Alabama, Florida, Michigan, Minnesota, North Dakota, South Carolina and Wisconsin established self-insurance funds. Those of Michigan and Minnesota have subsequently become inactive due to discontinuance by the legislatures of appropriations for premiums. The others are operated on much the same plan as private insurance carriers, even to the extent of using the latter's rates as a base for their own charges.

Colorado, Iowa, Oregon, South Dakota and Tennessee have provided emergency reserve appropriations to meet losses on state property. These are not proportioned in size to the value at risk, cover in some cases against a variety of hazards besides those of fire and windstorm, and amount to nothing more than sources which can be tapped in case of a moderate loss without special resort to the legislature. New Jersey and Vermont are building up reserve funds for a similar purpose, but pending the attainment of a given size, are insuring their property with private companies.

*Public Official Bonding Funds* — Officials of the two Dakotas and their political subdivisions must procure any surety bonds, necessitated by the nature of their positions, from state bonding funds. Private carriers are practically excluded from this business by a provision of law which prohibits the use of public money for the purchase of personal or corporate surety bonds. Both funds are small and show little prospect of growth.

*Public Deposits Guaranty Funds*— In 1925, Iowa and Wisconsin provided for the creation of funds from which losses on public deposits resulting from bank failures might be paid. These funds are maintained by diverting to them the interest (or a portion thereof) earned on deposits. The experience in Iowa has been unfortunate from the outset. By the beginning of 1928, the deficit had reached three and one-half million dollars.

*Protection for Public Employees*

WHEN public school teachers or employees of the state become disabled or have grown too old for further service, the question inevitably arises as to what assistance the state will extend to them. As straight, non-contributory pensions will ultimately create a tremendous financial burden, only a few states pay such, many having met the problem by establishing contributory pension funds to which the person to be benefitted is obliged to contribute a portion of the cost during his earning years.

*Teachers' Retirement Funds* — Twenty states have made definite provision for pensioning disabled and superannuated teachers, but

## State Funds

*(Continued from preceding Page)*

only eleven of the funds created in connection therewith may properly be acknowledged to have an actuarial foundation. These are found in Connecticut, Indiana, Maine, Maryland, Massachusetts, New Jersey, New York, Ohio, Pennsylvania, Vermont and Wisconsin. Teachers' contributions are accumulated with interest in separate accounts as if they were savings deposits. Whenever the age of retirement is reached, the total amount to the credit of a teacher is used to purchase an annuity whose cost is determined on the basis of a given mortality table and interest rate. Ordinarily, the state matches the annuity provided by the teacher with a pension of like amount, and may grant an additional sum for service rendered prior to enactment of the law. The current and accrued liabilities assumed by the state under such an arrangement are generally quite large, but some states have not yet faced squarely the financing of them in a manner dictated by sound principles. Future legislatures must shoulder that burden.

California, Illinois, Michigan, Minnesota, Montana, Nevada, North Dakota, Virginia and Washington operate what may be termed "cash disbursements" funds. Assessments upon teachers are low and fixed arbitrarily by law without regard to the benefits promised. Appropriations by the states are not adequate to meet deficiencies, and solvency of the funds is not guaranteed. During the early years of such a scheme, current receipts suffice to meet pension payments, but as the pension roll grows, an ultimate deficit is inevitable. The Minnesota fund is now paying only forty per cent of the stipulated pension and the Virginia fund has been obliged to scale down its payments in two different years. Were the assets and liabilities of these nine funds actuarilly valued, there is reason to believe the shortage would well exceed one hundred millions of dollars. Surely, teachers who have looked forward throughout their entire careers to the modest income promised by a state sponsored pension fund should have more definite assurance that their confidence has not been misplaced.

### *Geographical Distribution of State Funds and Dates of Adoption*

| State | Fire and Tornado Insurance Funds | Public Official Bonding Funds | Public Deposits Guaranty Funds | Teachers' Retirement Funds | State Employees' Retirement Funds | Workmen's Compensation Insurance Funds | Hail Insurance Funds | Bank Guaranty Funds | Life Insurance Funds | Torrens Title Insurance Funds | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 1923 | | | | | | | | | | 1 |
| Arizona | | | | | | 1925 | | | | | 1 |
| Arkansas | | | | | | | | | | | 0 |
| California | | | | 1913 | | 1913 | | | | 1897 | 3 |
| Colorado | 1925 | | | | | 1915 | | | | 1903 | 3 |
| Connecticut | | | | 1917 | | | | | | | 1 |
| Delaware | | | | | | | | | | | 0 |
| Florida | 1917 | | | | | | | | | | 1 |
| Georgia | | | | | | | | | | 1917 | 1 |
| Idaho | | | | | | 1918 | | | | | 1 |
| Illinois | | | | 1915 | | | | | | 1897 | 2 |
| Indiana | | | | 1915 | | | | | | | 1 |
| Iowa | 190- | | 1925 | | | | | | | | 2 |
| Kansas | | | | | | | | 1909 | | | 1 |
| Kentucky | | | | | | | | | | | 0 |
| Louisiana | | | | | | | | | | | 0 |
| Maine | | | | 1924 | | | | | | | 1 |
| Maryland | | | | 1902 | | 1914 | | | | | 2 |
| Massachusetts | | | | 1914 | 1912 | | | | 1907 | 1898 | 4 |
| Michigan | 1913 | | | 1915 | | 1912 | | | | | 3 |
| Minnesota | 1913 | | | 1915 | | | | | | 1901 | 3 |
| Mississippi | | | | | | | | 1914 | | 1913 | 2 |
| Missouri | | | | | | | | | | | 0 |
| Montana | | | | 1915 | | 1915 | 1916 | | | | 3 |
| Nebraska | | | | | | | 1917 | 1909 | | 1915 | 3 |
| Nevada | | | | 1915 | | 1911 | | | | | 2 |
| New Hampshire | | | | | | | | | | | 0 |
| New Jersey | 1913 | | | 1896 | 1921 | | | | | | 3 |
| New Mexico | | | | | | | | | | | 0 |
| New York | | | | 1911 | 1920 | 1913 | | | | 1908 | 4 |
| North Carolina | | | | | | | | | | 1913 | 1 |
| North Dakota | 1919 | 1915 | | 1913 | | 1919 | 1911 | 1917 | | 1917 | 7 |
| Ohio | | | | 1919 | | 1911 | | | | 1913 | 3 |
| Oklahoma | | | | | | | 1919 | 1907 | | | 2 |
| Oregon | 1925 | | | | | 1913 | | | | 1901 | 3 |
| Pennsylvania | | | | 1917 | 1923 | 1915 | | | | | 3 |
| Rhode Island | | | | | | | | | | | 0 |
| South Carolina | 1900 | | | | | | | | | 1916 | 2 |
| South Dakota | 1919 | 1919 | | | | | 1919 | 1915 | | 1917 | 5 |
| Tennessee | 1905 | | | | | | | | | 1917 | 2 |
| Texas | | | | | | | | 1909 | | | 1 |
| Utah | | | | | | 1917 | | | | 1917 | 2 |
| Vermont | 1919 | | | 1919 | | | | | | | 2 |
| Virginia | | | | 1908 | | | | | | 1916 | 2 |
| Washington | | | | 1923 | | 1911 | | 1917 | | 1907 | 4 |
| West Virginia | | | | | | 1913 | | | | | 1 |
| Wisconsin | 1903 | | 1925 | 1911 | | | | | 1911 | | 4 |
| Wyoming | | | | | | 1915 | | | | | 1 |
| Total | 14 | 2 | 2 | 20 | 4 | 17 | 5 | 8 | 2 | 19 | 93 |

*State Employees' Retirement Funds*—State employees in Massachusetts, New Jersey, New York and Pennsylvania contribute to and receive benefits from funds very similar in character to the actuarial teachers' funds above mentioned. Except in Massachusetts, the state's share of the cost is scientifically financed.

### *Protection for Private Business and Citizens*

CERTAIN very definite boundaries circumscribe the extent to which a state's activities in underwriting insurance on public property or employees of the public may be developed. There are virtually no limitations, however, upon the degree to which it might write insurance of various kinds for members of the body politic. The types of funds thus far established and their importance relative to private companies are therefore of special significance.

*Workmen's Compensation Insurance Funds*—When the principle of compensation superseded the outgrown doctrine of employers' liability in the states of Nevada, North Dakota, Ohio, Oregon, Washington, West Virginia and Wyoming, employers (with the exception of some permitted to self-insure) were compelled to carry their insurance with state funds created for the purpose. The combined premium income of these bodies is approximately ten per cent of that for all compensation insurance carriers in the

*(Continued on Page 20)*

# Fighting Farm Fires

## *Organization and Equipment Used in Live Rural Communities Which Reduced Losses Sixty Percent*

By GEORGE FISKE JOHNSON

IN the newspaper on a recent morning I read the following story:

Fire of undetermined origin Saturday night destroyed a barn and crops, as well as part of the farm house on the "old ——farm," about two miles north of ——, causing damage estimated at $12,000.
* * *

Members of the —— Fire Company, of ——, and the —— Fire Company who answered alarms to the blaze, said that they were delayed a half hour by curious motorists who blocked the road and kept the firemen from reaching the buildings before the barn walls started to crumble.
* * *

Both the —— company and the —— fire department responded to the alarm. The —— telephone exchange was out of order so the two companies started over different roads toward —— in order to find the fire. The —— company took the shorter route and reached the scene of the blaze first, but curious motorists who were attracted by the glowing sky kept them from the buildings for at least a half hour.

When the —— company truck finally did force its way toward the blaze, another auto collided with it and then sped on. Both companies were helpless to fight the barn fire because of lack of water, although the barn was almost destroyed by that time. * * *

The buildings were partly insured. * * *

Is it any wonder fires on farms and in rural districts caused approximately $150,000,000 damage to property last year? The newspaper item gives a typical story: (1) No community organization designed to function instantly upon the report of a fire; (2) Inadequate details as to the location of the fire and best way to reach it; (3) Lack of any kind of policing to prevent curious onlookers from blocking the path of the fire-fighting apparatus: (4) No water supply available; (5) Inadequate insurance.

MANY farmers are utterly at the mercy of fire. Instead of having both protection and insurance, they have neither. Instead of taking every possible precaution, they permit themselves to tolerate a position so precarious that the accumulation of many years of hard work can be wiped out in a single day. So rapidly and completely have other industries taken to fire protection and insurance, that the situation which so largely exists in agriculture today is unique in the business life of America. I believe I am right when I say that no other great industry is so unprepared and so under-insured for fire and at the same time suffers such a heavy fire loss in proportion to capital invested as agriculture.

This would be a gloomy story indeed if it were not for the fact that progressive communities here and there over the great agricultural areas of this country are showing us the way to simple, inexpensive and yet effective fire protection for the farmer, equal to the best in our larger cities.

Courtesy Farm Journal.

*Farm Fire Fighting Equipment at Work.*

Take the farm community surrounding Adrian, in Lenawee County, Michigan, for example. A cooperative rural fire-protection service in that county saved farmers $42,000 worth of property in 1926 and $26,000 in 1927, besides reducing the mutual fire insurance rate from $3.10 to $1.50.

As reported in the Farm Journal, the story goes back to 1924, when the farmers in this Michigan county organized a "rural fire-protective association," which has since grown into one of the largest of its kind in the United States. Membership is now over 900.

"It is a big-brother movement," Secretary F. C. Ehinger explains. "The association is financed entirely by voluntary contributions. These have amounted to $9,500, ranging from $10 to $150 per farmer. In spite of the fact that this is our fourth year, we have never levied an assessment, and we don't expect to, because the payments from our new members are building up a substantial reserve."

Out of the original contributions, a fire-truck carrying six 50-gallon chemical-tanks, three 200-foot lines of hose, hand extinguishers, ladders especially designed for farm buildings, 20 buckets and other special equipment was purchased. The association is now equipped to take care of any emergency that exist in fighting a farm fire, even to the extent of having mud - hooks in case the truck gets stuck in the barnyard.

ONE of the most important features of the association is its contract with the Adrian fire department. The department has agreed to house and man the truck and to answer all calls. This gives the farmers 24-hour fire-fighting service and trained firemen, the same as city residents have.

The association also has the fullest cooperation of the telephone exchanges. No toll charges are made for fire calls, and test calls are gladly made every few months from different parts of the county.

When a fire occurs, the farmers are instructed to bring with them milk-cans filled with water so that sufficient water will be available to recharge the chemical tanks.

"At one fire there were 20 cans of water waiting when the truck arrived," Mr. Ehinger says. "The plan is certainly a good one, since the milk-cans are easy to handle; and when the water is brought by neighbors from their wells, it is clean and can be poured into the chemical-tanks without fear of getting in dirt and other foreign matter. This plan also helps to conserve the water supply on the farm where the fire is located."

Where the farmer has been careful in giving directions, it is possible for the fire-truck to reach the farm quickly. The truck can make 60 miles an

hour on good open road, and several farm calls have been made at that speed. This means that a farm ten miles from Adrian could be reached in from ten to twenty minutes, depending upon the road and the traffic.

The inexperienced fire-fighter is a menace at a fire. They have discovered this in Lenawee County, so officers of the association are continually addressing farmers' institutes and Grange meetings, telling farmers what to do and *what not to do* in case of fire.

"Never open a door or window to let the smoke out," is one of the ten commandments of fire-fighting in Lenawee County. Others deal with cleaning up old rubbish, storing hay and fodder, and electrical wiring.

IN the vicinity of Hastings, Michigan, there is another splendid example of successful community cooperation for fire loss prevention. It seems that the city had an "unwritten law" that its fire apparatus should not be used for fighting fires beyond the city limits. A few fires occurring here and there in the country finally spurred farmers to action. They called neighborhood meetings and soon had 400 rural property owners within a radius of eight miles sufficiently interested that an association was formed and incorporated. Soon a truck capable of a speed of 60 miles per hour and costing approximately $5,000 was purchased along with the following equipment: Two thirty-five gallon chemical tanks, 200 feet of chemical hose, extra tanks both for soda and acid, a centrifugal pump capable of throwing 500 gallons a minute from a river or cistern, 600 from a hydrant, 1,000 feet 2½-inch hose, one ¾ and one 1¼ inch nozzle, one eighteen-foot and one twenty-four-foot extension ladder, ax, pick, crowbar and a dozen pails, two electric hand lanterns, and two powerful electric searchlights.

Arrangements between the city fire department and the rural association, very similar to those already described for Adrian, were made so that 24-hour, experienced, fire-fighting service was assured. Some idea of the success of this cooperative effort can be secured by the following report: During a period of five months, five runs for members and two runs for non-members were made. In one case a $4,500 home was saved after a threshing outfit had set the barn afire. Only the speed of the fire apparatus—four miles in six minutes—and a nearby pond saved the house.

In none of the cases reported was more than eleven minutes required to make the runs to farm fires. The longest was an eight-mile run made in eleven minutes, and in this instance, property saved was estimated at $1,500 with but $500 loss.

It is estimated that the fire apparatus during the first five months in operation saved farm property valued at $13,450, three times what the outfit cost. It is said that the local insurance company has saved between $13,000 and $14,000 a year because of this organized effort. For that reason, the company pays $10 to the association every time a run is made to a farm fire.

ALBION, Michigan, gives us another convincing example. In December, 1925, a number of farmers in that community organized the Albion Rural Fire Protection Association and purchased a truck at a cost of $5,400. It was equipped with a high pressure water pump, four 35 gallon chemical tanks, 250 feet of 2½ inch water hose, 400 feet of chemical hose, 30 feet of ladder and 12 charges for the chemical tanks.

Arrangements were made with the city of Albion whereby the city fire department houses and mans the truck in return for the use of the farmers' equipment in case some of the city's apparatus is out of commission.

"Our fires are handled much the same as in the city," H. G. Bliss, secretary of the association explains. "If there is water available it is used, otherwise the chemical is resorted to entirely.

*(Continued on Page 30)*

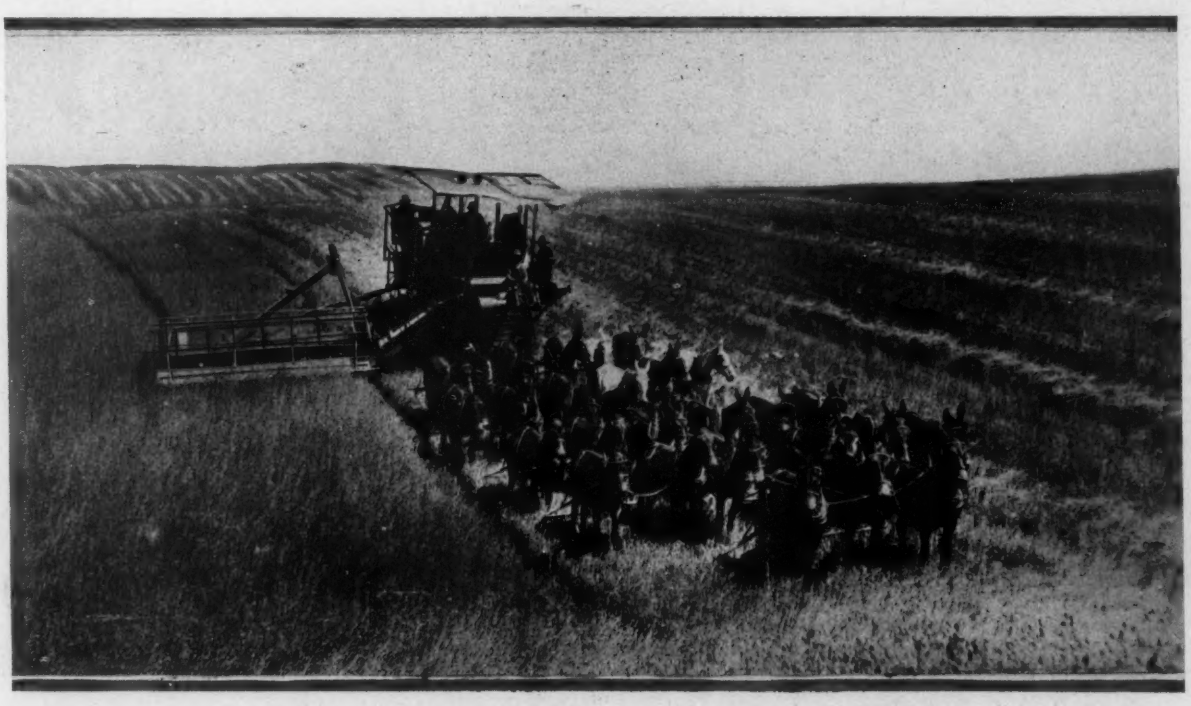


Photo b P. & A.

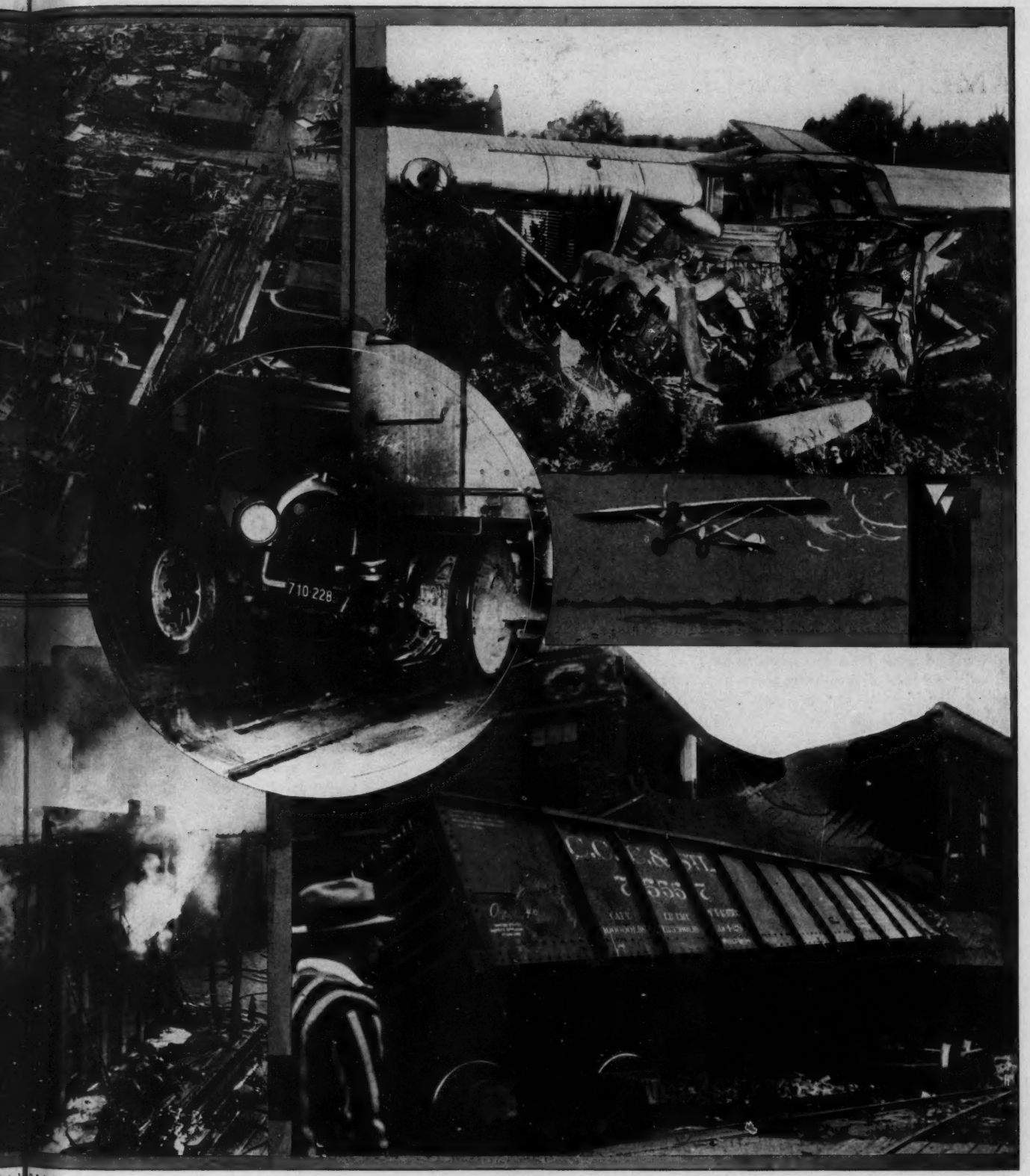
***A Washout Ended the Career*** *of this Locomotive (Left at Top) and the Train Behind It. Two Lives Were Lost and Valuable Freight was Scattered over the Countryside.*

***Wind With Tremendous Force*** *(Center at Top) Made Nearly a Clean Sweep of a Block of Small Homes, Thus Emphasizing the Need of Tornado Insurance for the Householder.*

***No One Was Hurt In the Crash*** *(Right at Top) Which Made a Heap of Junk Out of What a Few Minutes Before was a Beautifully Constructed Plane.*

# INSURANCE BE

***This Railroad Bridge Collapsed*** *(Left a Bottom with Bricks Started Across. The structio*




hoto by P. & A.

# BEARS THE LOSS

*ft at Bottom) When a Freight Train Heavily Loaded The truction was Sudden and Complete.*

***An Auto Met Up With A Railroad Car*** *(Right in Circle) and Poked Its Nose Dangerously Close to the Wheels. This Happened in Chicago, Resulting From Careless Driving.*

***Dangerous Smoke From Burning Drugs*** *(Center at Bottom) Increased the Hazard in Fighting a Blaze in Jersey City. But the Courageous Firemen Finished the Job.*

***Coal Car Leaps Into A Building*** *(Right at Bottom.) This Curious Accident Took the Entire Corner off of a Plant of the American Bridge Company in Chicago.*

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## The Gentle Art of Adjusting

LONG before we came to take any definite interest in the fascinating subject of insurance we were intrigued by the use of the term "adjuster" as applied to a group of its important functionaries.

Some little experience of life and the world in which it must be lived had convinced us that one of the greatest needs we have is for "adjusters." So many of our troubles are due to misunderstanding and the maladjustment to environment and to one another which results from it, that it seemed to us there could be no more useful work than that of attempting, intelligently, expertly and tactfully, to bring about harmonious, working relationships where the possibilities of discord and conflict exist.

That is why we are following with unusual interest the articles now appearing in the Journal of American Insurance on fire insurance adjusting. A. T. Persson, of Chicago, who delivered the substance of them as an address at the Mutual Convention in Milwaukee, writes with a full knowledge of his theme, and out of a long and wide experience. We are impressed by the emphasis which he places upon the psychology of the gentle art. He considers it of no less importance than the technique, and the highly specialized knowledge which the qualified adjuster must possess. In that we agree with him.

PRIMARILY the work of adjusting is a human task. Whatever the facts in the case may be as to the law, the terms of contract, the estimates of loss and so forth, a fundamental consideration is the mental attitude which the insured can be persuaded to take toward the process of settlement. For a settlement can be regarded as advantageous to the company only when it leaves the insured in a friendly state of mind. He must feel that he has been given fair and sympathetic treatment. Assuming mutual good faith, an adjuster who fails to achieve this result is failing in a main objective of his effort. The insurance settlement that converts an honest man into a man with a grievance has not been adjusted in the true and complete sense of the word no matter how advantageous it may be from a financial standpoint to the company. The creation of goodwill must always be given a primary place in the aims of the adjuster.

In other words the task is something more than the mere reconciling of facts and figures with contractual terms, or a policy-holder's demands with the just obligations of the company. It is a process of getting into the other fellow's mind and gently removing his misconceptions, his prejudices, his possible sense of injury, so that he may become acquiescent in the ultimate settlement—cheerfully acquiescent.

If we were to analyze the adjustment attitude which it seems to us is likely to obtain the best results, we would do it something after this fashion:

An adjuster will not appear to be in too great a hurry. Always an appearance of haste suggests the desire to drive, and nobody likes to be driven. Certainly no man who may be standing in the smouldering ruin of his business or his home is in a humor to be driven.

An adjuster will be a good listener. He will let the other fellow tell his story. He will let him mourn his loss. He will not belittle it. He will sympathize. There may be exaggeration obvious to the adjuster, whose emotions have not been stirred by any sense of personal disaster. That is a factor to be dealt with at the opportune moment which will come later. But a man who is allowed to tell his story in his own way is always in a better frame of mind to be reasoned with after he has got his woes out of his system. The fact that he has been heard with patience and some display of sympathy goes far to satisfy him.

An adjuster will not too quickly attempt to tie the man's thought to the printed and rigid terms of the contract. If there exists misunderstanding of its terms—a situation frequently met as Mr. Persson notes—he will approach the removal of the misunderstanding tactfully. He will not suggest that there is a deliberate attempt to over-reach in the mistaken interpretation of the insured. He will wait until he feels he has won the confidence of the man in his own intent to be fair.

NECESSARILY there must be behind this attitude a shrewd vigilance. The adjuster who is a student of human nature will not often fail in distinguishing between the man who is honestly disposed, and the man who is eager to "beat" the company if he can. Much allowance must be made for the former. The latter must be watched in both word and act.

These, of course, are general principles. The diversification of human nature is limited only by the number of persons there are in the world. Each case of adjustment will present its own problems, both in the facts and in the personalities involved. The adjuster must be able to adjust himself. He must be bigger than any formulae he follows, and he must approach his work with a determination to reach settlement by the road which conciliates rather than irritates.

He should take care of his digestion, get enough sleep and keep his mind as free from worries as is humanly possible. The worst enemy of successful adjusting is a grouch in the disposition, and nothing breeds grouches more surely than dyspepsia or insufficient rest.

# Life-Lights Against a Business Background

## *Get Rid of Your Grouch*

By S. J. DUNCAN-CLARK

THERE is no worse companion than a grouch. The man who carries one in his mind is cherishing a poison from which he will suffer in his happiness and efficiency. To hold a feeling of resentment toward one's fellows, even toward an individual; or to hold it against one's circumstances, is to be inhibited by its influence from living freely and effectively.

The derivation of the word "grouch" is not certain, but it is probably closely related to grudge. The English use the expression "grouse" in an almost synonymous sense. To grouse, with them, is to grumble. Perhaps there is significance in the fact that all these words begin with "gr." Try to make the sound "gr-r-r" and you will find yourself in the doing of it developing a grouchy, disagreeable feeling.

Nobody with a grouch can be at his best. It prevents clear vision. His outlook upon the world will be distorted. Everything at which he gazes will appear a little worse than it really is. The grouch will intrude itself continually between him and many things which might bring pleasure or satisfaction. It will obscure for him opportunities by which he might profit. It will rob him of friends and their helpfulness. A man with a grouch is not easy to like, he is not easy to work with. He loses from his life the value of cooperation.

A grouch is never reasonable. It cannot be reasoned with, and it perverts all efforts on the part of its possessor to reason. It puts a bias in judgment which leads to mistaken inferences and conclusions.

I KNEW a man once who kept as his pet a sort of general grouch against the world. He had a feeling that the world had it in for him. Everything that did not go just right he attributed to some personal animosity or dislike.

I went into a restaurant with him one day. In handing him his cup of coffee the waiter spilled a little of it in the saucer, and failed to remedy his carelessness, either thru oversight or from that indifference which is not rare in certain types of waiters. My friend grumbled. When the waiter departed he said to me,

"Do you see that?" indicating the coffee in the saucer. "That was deliberate. He didn't like the tie I am wearing."

Ridiculous certainly; so absurd that had I not known my friend as a man of high intelligence in most things I might have questioned the sanity of a mind that could entertain such a fancy. But it is to just that degree of unreasoning resentment which a long-cherished grouch can carry one.

In such cases, and they are not infrequent, the grouch is the result of a super-sensitive ego. Actually it is a sort of twisted vanity which induces it. How else could one suppose that anybody cared enough about the sort or color of tie he wore to display displeasure by slopping coffee in his saucer? If one's thought was less upon one's self such notion would never enter the mind.

MOST grouches are due to an excessive self-consciousness. Some men project their own shadows over everything upon which they look. But to do that you must stand with your back to the sun. If we face the sun our shadows will fall behind us, and we will not be reminded constantly of ourselves.

The happiest people, and the most efficient people, are those who cast their shadows behind rather than in front of them. Thus they get the full light of day upon their world, upon their tasks, upon their fellows, and the whole prospect is brighter.

The man who is thinking of his job; of the possibilities for doing it better, for making it a contribution to his firm, to his community; who is looking for the opportunities to serve rather than to promote his own advantage is likely to be a vastly more contented and successful man, than the fellow who is everlastingly pushing himself, and as everlastingly resenting the inevitable opposition he will meet.

"Say, young man," said a wise business acquaintance of mine to a youth whom we both knew, "why are you so persistent in projecting your own personality and your own claims for recognition? Don't you know that a man who is absorbed in promoting himself has only one promoter, while the man who is thinking chiefly of the job to be done is likely to have a dozen pushing him forward?"

There is a lot of truth in that.

When the vacancy comes in your business, who are you going to promote? It will not be the fellow who has grouched continually; who has never done a moment's overtime without grumbling; who has complained of his desk, his chair, the light he must work by, the ventilation of the office, the way in which anybody or everybody else does his work. It will be the fellow who has cheerfully gone ahead, making the best of conditions, carrying a full share of the load, offering suggestions in a cooperative spirit—his mind on his job rather than on himself.

"A MAN must stand up for his rights," somebody says. Well, let's put it a little differently—a man must make his rights stand up. That is what a lot of these fellows who are forever talking about their rights forget. Rights must be earned. The man who thinks less of his rights than he does of his duties will discover that he has established rights which everybody else recognizes without question.

Of course a grouch, sometimes, is a result of ill-health. Often ill-health is a consequence of carelessness. The fellow who never allows himself enough sleeping time; who eats irregularly and unwisely; who takes no exercise is almost certain to develop a grouch. He will not be free from it until he changes his habits.

I was set thinking about grouches and getting rid of them by the approach of Thanksgiving. The spirit of that festival is the enemy of grouchiness. Before you tackle the turkey and trimmings I suggest that you make certain there are none of these unhappy, disabling little imps of discontent lurking about your mental premises.

(Continued from Page 13)

forty-three states having workmen's compensation laws on their statute books.

Arizona, California, Colorado, Idaho, Maryland, Michigan, Montana, New York, Pennsylvania and Utah have created competitive state compensation insurance funds. Insurance on public employment and contracts on public works must be placed with the fund in five of these states, but private businesses in all are given an option in the choice of their insurance carriers. It is worthy of note that the aggregate premium income of the ten funds represents only one-sixth of the premiums paid by all employers in those ten states for workmen's compensation coverage.

*Hail Insurance Funds* — Hail storms in the middle West and Northwest frequently cause serious damage to growing crops. In order to insure farmers against this hazard, Montana, Nebraska, North Dakota, Oklahoma and South Dakota set up state hail insurance funds. That of Oklahoma, failing to receive the support of farmers, was shortlived. Coverage is automatic in the Dakotas, all cropped land being insured unless specifically exempted. Many farmers are exercising the exemption privilege so the receipts of the funds are not nearly so large as they were at one time. Even the income of the other two funds, which are optional, has dwindled quite rapidly, so that all four funds together now receive less than one-sixth of all the premiums paid for hail insurance in this country, whereas in 1922 they received almost one-third of the total.

*Bank Guaranty Funds* — A desire to protect depositors in state banks against loss which might be occasioned by insolvency led to the formation of guaranty funds by the states of Kansas, Mississippi, Nebraska, North Dakota, Oklahoma, South Dakota, Texas and Washington. The first one and the last two named were optional in that banks could choose whether or not they should become members of the system. All others were compulsory. An epidemic of bank failures brought on by the post-war deflation period attacked the weak spots in the foundation principles of these funds until seven eventually collapsed with a net deficit in excess of sixty millions of dollars. The Nebraska fund still claims to

(Continued last column Page 21)

*Delegates and Their Families from Nearly E in the*

# Two Mutual Conventions t

## *Get-Together Meetings of Various Organizatio the*

TWO important events in 1928's record of Mutual doings were the recent gatherings at Milwaukee and at Asheville, North Carolina.

The Wisconsin city was host for the Twelfth Annual Meeting of the Federation of Mutual Fire Insurance Companies, together with the Thirty-third Annual Meeting of the National Association of Mutual Insurance Companies.

These occasions drew a representative gathering of delegates from many branches of mutual activities, and when the registration was counted up it was found that the convention was one of the largest in point of attendance of any ever held.

Those in charge of entertainment did a most courteous and complete job of making everybody comfortable and interested. Sight-seeing trips, theatre parties and the like occupied every minute of the time not devoted to the business of the meetings themselves. Praise for the various committees who handled different details was enthusiastically expressed. "Unqualified success" was the stamp put on the convention.

With such a wealth of material to select from, a report of the business done and the speeches heard is difficult to boil down to readable length. Mention of specific addresses must be left for future issues of the Journal where excerpts from outstanding papers read at the convention will be printed from time to time.

DURING the proceedings, President F. J. Martin of the National Association and President Burton S. Flagg of the Federation voiced the ideals and plans for the future of their respective organizations. The solid, constructive policies of these two executives were plainly evident in the dignity with which the meetings under their sponsorship were conducted.

Among the addresses delivered on the National Association program were "Essentials for Inter-State Cooperation of Assessment Mutuals" by W. A. Rutledge of Iowa, "Rates and Reserves for Windstorm and Hail Insurance Companies" by Dr. V. N. Valgren of Washington, D. C., "Problems of Windstorm Insurance and Their Solution" by Harry F. Gross of Iowa, "The Florists' Publicity Campaign" by J. F. Ammann of Illinois, "Our Heritage" by J. H. R. Timanus, "The Vision of Tomorrow" by B. Rees Jones of Iowa, "Fire Prevention Activities and the N. F. P. A." by Eugene Arms of Chicago, "Our Fire Protection Work and Its Results" by W. W. Dodson of Pennsylvania, "Compulsory Automobile Insurance" by James R. Haviland, Philadelphia and an address by Hon. Joseph E. Kennedy, Deputy Commissioner of Insurance of Wisconsin.

Included in the Federation program were addresses by Louis Weimer on "The Needs of the Business," and by Mr. John A. Arnold on "The General Underwriting Situation."

The golf tournament was a well attended feature. After a hard fought battle on excellent links the following emerged successful:

*...in the Union Are in This Picture Taken at Milwaukee*

# ...t Milwaukee and Asheville

## ...the Mutual World Have Interesting Sessions

Low Gross—J. B. Bridston
Low Gross Runner up—E. J. Brookhart
Low Net—H. G. Kemper
Low Net Runner Up—Frank Brigham
Low Putts—E. K. Collett
First Flight—Stannard Baker
Second Flight—N. E. Davis
Third Flight—Houston Dunn
Fourth Flight—Mr. John A. Arnold
First Blind Bogey—G. A. Minskey
Second Blind Bogey—L. G. Purmort
Consolation—Louis G. Weimer

Officers of the Federation of Mutual Fire Insurance Companies remain the same as last year, namely, Burton S. Flagg, President, A. D. Baker, Vice-President, A. V. Gruhn, Secretary, Frank Bishop, National Councillor.

The National Association of Mutual Fire Insurance Companies elected: *Milo A. White, President, Fremont, Michigan; *Burton S. Flagg, Vice-President, Andover, Massachusetts; *Harry P. Cooper, Secretary, Indianapolis, Indiana; *Frank B. Fowler, Treasurer, Indianapolis, Indiana; *F. J. Martin Past President Ex-Officio, Seattle, Washington; W. E. Straub, National Councillor, United States Chamber of Commerce, Lincoln, Nebraska.

OF a different nature as to subject matter, but with similar enthusiasm as to delegates and high quality of discussions by able speakers, was the Eighteenth Annual Meeting of the National Association of Mutual Casualty Companies and the Ninth Annual Meeting of the National Association of Automotive Mutual Insurance Companies at Grove Park Inn, Asheville, North Carolina, October 22nd to the 24th.

President P. J. Jacobs of the Automotive group and President Homer R. Mitchell of the Casualty group outlined in their addresses the excellent work done during the past year.

A discussion of large importance was given by Professor S. S. Huebner of the Wharton School of Finance and Commerce, University of Pennsylvania, on "Educational Tendencies in Insurance." His address brought out some surprising facts, and held the attention of even the busiest delegates for over an hour. The gist of his talk will be included in the Journal pages in the near future.

OTHER talks of moment were "Workmen's Compensation Rate Making" by Mr. Charles E. Hodges, Jr., "Mutual Insurance versus Self Insurance" by Mr. John L. Train, "The Human Aspect of Casualty Insurance" by Arthur Butler Graham, "Compulsory Automobile Insurance" by S. Bruce Black, "The Actual Value, Automobile, Fire and Theft Policy" by Mr. C. L. Stillman and "Automobile Contingent Liability" by Mr. W. H. Burhop.

The golf tournament here was also an important item—and here are the victors:

Low Gross—John L. Train
Low Gross Runner Up—E. J. Brookhart
Low Net—Owen Augspurger
Low Net Runner Up—H. G. Kemper
Low Putts—H. L. Geisler

Officers elected were as follows: National Association of Mutual Casualty Companies—*S. Bruce Black, President, *George L. Mallery, 1st Vice-President, *Sam S. Brewer, 2nd Vice-President, *H. J. Hagge, 3rd Vice-President, J. M. Eaton, Secretary, Homer R. Mitchell, National Councillor.

National Association of Automotive Mutual Insurance Companies—*C. E. Hodges, Jr., President, *C. A. L. Purmort, 1st Vice-President, *Owen B. Augspurger, 2nd Vice-President, J. M. Eaton, Secretary, John L. Train, National Councillor.

*Denotes newly elected officer.

## State Funds

*(Continued from Page 20)*

be solvent but serious doubts as to its real status have been raised.

*Life Insurance Funds*—Wisconsin operates a state life insurance fund but at the end of fourteen years existence (1927), it had only 896 policies in force with an aggregate face value of little more than a million dollars. A savings bank life insurance system sponsored, and partially subsidized, by the state of Massachusetts showed total insurance in force of about fifty millions of dollars in 1927, which is roughly one and one-half per cent of the amount written in that state by all other carriers.

*Torrens Title Insurance Funds* — California, Colorado, Georgia, Illinois, Massachusetts, Minnesota, Mississippi, Nebraska, New York, North Carolina, North Dakota, Ohio, Oregon, South Carolina, South Dakota, Tennessee, Utah, Virginia and Washington have enacted Torrens title laws to facilitate the transfer and registration of land titles. Each law provides for building up an indemnity fund, but all funds are small in size and many inoperative.

### *Time for Reflection*

STATE operation is frequently urged as a panacea for all the ills to which the institution of insurance may be heir. To have an intelligent foundation for determining whether the advantages claimed for it are real or imaginary, and for passing judgment upon the advisability of further extension in this field, it is essential that we look back over the records of the past and carefully analyze the experience which has been accumulated. It is hoped that this brief sketch may serve as an introduction to such an inquiry.

# Inert Gas to Prevent Explosions

## *What Experiments in Dust Chambers of Grinding Equipment Have Developed Looking Toward a Greater Measure of Safety*

Photo by P. & A.

*Catastrophe Assumes Odd Forms When Destruction is Through. Some Explosive Force Here Wrenched a Building Into the Shape of a Gigantic Fan*

**By HYLTON R. BROWN**

*Associate Engineer Chemical and Technological Research, Bureau of Chemistry and Soils U. S. Department of Agriculture*

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**SECOND SECTION**

QUESTIONS usually asked by anyone contemplating the use of inert gas for explosion protection in industrial plants are, (1) Will the gas have any injurious effect on employees? (2) What effect will the gas have on the material being ground? (3) How much gas will be needed? (4) What equipment will be needed?

### *Effect of Gas on Employees*

BEFORE installing a new device it is logical for the plant manager to consider the effect it may have upon the health or safety of employees. Owing to a misunderstanding of the recommended method of using inert gas for explosion and fire prevention, the question concerning the possible injurious effect of the gas on employees is asked frequently. It would, of course, be impossible for a man to work in an atmosphere sufficiently low in oxygen to prevent explosions, and it is not intended that the gas should be used in a room or inclosure where employees work or which they even enter. The system has been developed and is recommended for inclosed grinding, conveying, or handling equipment, and when used as intended will have no injurious effect on employees. Inclosed milling systems are constructed to prevent the escape of dust and can easily be made tight enough to prevent the escape of any appreciable quantity of gas into the room or building where employees are at work.

When flue gas is used as the medium for reducing the oxygen content of the air to the percentage necessary to prevent explosions in grinding equipment and the gas is also introduced into bins or inclosures to which the ground material passes, employees should not enter these bins or inclosures. The use of flue gas in such places introduces two hazards, namely, the reduction of the oxygen percentage of the atmosphere below that necessary to support life, and the possible presence in the flue gas of carbon monoxide. It is unlikely that the quantity of carbon dioxide ordinarily used for explosion and fire protection would be sufficient to render the atmosphere rapidly poisonous, and with the modern efficient methods of operating boilers it is unlikely that any appreciable quantity of carbon monoxide will be found in the flue gas. Nevertheless, no one should be permitted to enter an inclosure into which flue gas has been introduced until it has been thoroughly ventilated.

THE use of flue gas for dust-explosion prevention has been recommended because as a rule it offers a ready source of carbon dioxide, and it appears to be most logical to use carbon dioxide for this purpose. No

Italic figures in parenthesis refer to Bibliography. See end of article.

question arises concerning the effect of carbon dioxide on the material being ground. Its use in the preservation of food products and the making of carbonated beverages and the fact that it passes off quickly upon exposure of the product to the air indicate that this gas would have no injurious effect upon the material. There is, however, the possibility of other gases being present in flue gas, particularly when the fuels are sulphurous or arsenious, which would necessitate the cleaning of the gas. In the inert-gas tests described by Price and Brown (*12*), various products were exposed to both washed and unwashed flue gases. A coke scrubber with a spray of water running counter to the flow of gas was effective in cleaning the gas in these tests. Examination of the starch, dextrine, and flour exposed to the gas showed that the scrubber removed all the soot and practically all the sulphur dioxide. When the gas was not washed, traces of soot were detected in the flour, and a tarry odor was noticeable. Cleaning or conditioning is therefore recommended when flue gases are used during the manufacture or handling of food products or feeding stuffs.

In the tests described in this bulletin no scrubber or cleaner was used, but as the mill was some distance from the boiler house the long, exposed pipe line through which the gas passed evidently had a cleaning effect. By the time it reached the mill the gas was cooled to atmospheric temperature, and most of the excess moisture, if not all, was condensed and drained from the pipe through a water seal at the low point. The low velocity in the pipe, the screen over the intake which was connected to the breeching at right angles to the flow of gas, and the recirculation of the gas at the blower evidently eliminated much of the soot and impurities which might otherwise have entered the mill. In the systems now operating in hard-rubber grinding, cork grinding, and pyrethrum - flower grinding mills the gas is not cleaned, and no effect on the product has been detected. When the condition of the gas or the nature of the product necessitates cleaning or purifying the gas the ordinary coke scrubber or a filter or one of the many types of air washers now on the market can be used.

### *Quantity of Flue Gas Required*

THE quantity of flue gas necessary to prevent explosions during grinding depends upon the size and type of equipment used, its condition, and the kind of material being ground. Since the idea seemed to be general that enormous quantities of gas are necessary and many who were considering its use expressed concern over the possibility of obtaining a sufficient quantity of gas at the mill, or near it, measurements were made of the quantity of flue gas required to maintain within the experimentation mill an inert atmosphere capable of preventing an ignition or explosion of ground oat hulls.

A gas meter was placed in the pipe line through which the gas was forced into the mill hopper, and the valves in all other pipes were closed tight. As the percentage of inert gas required to prevent an explosion within the mill had been determined in the explosibility tests, it was necessary in this series of tests to determine only the quality of the flue gas coming from the boilers, adjust the valve in the pipe until an analysis of the atmosphere within the mill showed that sufficient gas to maintain the inert atmosphere necessary to prevent an igition of the oat hulls was entering, and then read the meter to determine the quantity of gas passing through the pipe. These tests were made with the mill in operation and with the same conditions under which the explosibility tests were made.

This series of tests showed that when the flue gas coming from the boilers contained approximately 10 per cent carbon dioxide it was necessary to use only 3 cubic feet of flue gas per minute in order to maintain an atmosphere within the mill which would not permit the ignition of ground oat hulls. It must be remembered that this figure applies only to the system described—a 24-inch attrition mill having bucket elevator and metal-lined hoppers and spouts arranged to permit circulating both the feed and the gas. All openings were closed so that it was necessary to supply only enough gas to replace the natural leakage through small cracks and crevices which could not be detected or readily closed. Plastic cement closed small leaks. This figure is probably much lower than could be obtained in industrial plants, where feed entering the mill would carry with it a certain quantity of fresh air, and removing the ground material from the mill or storage bin would permit the escape of some of the inert atmosphere. It does indicate, however, that obtaining a sufficient supply of gas is not as difficult as it is sometimes felt to be, since in almost all grinding mills it will be possible to cut down the natural leakage and provide for the recirculation of the inert gas, if necessary.

The quantity of flue gas required must be determined for each proposed inert-gas system. Methods of determining the required quantity are explained under the heading "Designing an inert gas system for explosion protection in industrial plants."

IT IS difficult to give a direct answer to the question concerning the equipment necessary to supply inert gas for explosion protection, as the equipment depends largely upon the type of material being ground, the location of the plant with respect to existing sources of inert gas, and various qualities of the gas itself. In general, it can be said that it is necessary to have (1) a source of supply, either the flue gas from boilers or furnaces or the product of inert-gas-producing equipment; (2) a fan, blower, pump, or compressor to force the gas to the place where it is to be used; (3) a system of distributing pipes with the proper control valves; and (4) indicating or recording equipment to show that the necessary percentage of inert gas is in the system. These are the essential parts of every inert-gas system.

As previously pointed out, it may be necessary when easily contaminated material is being ground to provide apparatus to clean, cool, or otherwise condition the gas to prevent any injurious effect upon the product. When the gas is obtained from boilers using coal or oil with a high sulphur content, additional equipment may be required to remove or neutralize the fumes which, when they condense, produce an acid that attacks the metal pipes and equipment

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through which the gas passes. When inert gas is obtained from boilers some distance from the mill in which the gas is to be used, it will probably be unnecessary to use any cooling apparatus other than the pipe line through which it passes. In the experimental plant the iron pipe carrying the gas from the boiler to the mill was laid on the ground, and the passage of the gas through this pipe reduced the temperature to approximately that of the atmosphere at the mill. No cleaning equipment has been necessary at the experimental plant or in the systems in operation at hard-rubber grinding, cork grinding, and pyrethrum-flower grinding mills, although in one industrial plant the flue gases pass through a cinder-vane fan before entering the breeching from which they are drawn by the fan of the inert-gas-distributing system. At the experimental plant no damage to the pipe line or equipment from the sulphur fumes has been detected. In one of the industrial systems, however, it was evident that the galvanized-metal pipes used for distributing the gas were being attacked. Such difficulties can usually be overcome through temperature control either by maintaining the gas at a temperature above the dew point until it has passed through the system or by cooling, condensing, and collecting the moisture it contains. When such measures are not practicable or effective, the gas may be passed through a neutralizing spray, or in place of the fan which generally forces the gas through the distributing system a pump of the hydroturbine type may be used. It is believed that substituting a neutralizing liquid for the water generally used in such pumps will overcome many, if not all, of the difficulties caused by acid fumes.

Photo by P. & A.

*Damage Caused by Explosion Which Ripped Its Way Through a Manufacturing Plant and Spread Fire in Its Wake to the Tune of a Huge Sum of Money. The Wreckage Appears to Be a Total Loss*

Another solution of this problem which has been found effective in one of the industrial systems is to line the distributing pipes with rubber. A special product which can be employed for this purpose is manufactured, and in addition there is on the market hard-rubber pipe and fittings which can be used where acid fumes are especially annoying and where they can not be removed or neutralized effectively. In the inert-gas systems now operating no great difficulty has been experienced because of sulphur fumes in the gas, and in view of the various methods of counteracting or preventing the acid action of such fumes no concern need be felt on this score.

Where a steam-power plant is operated in connection with a mill or factory, designing and installing inert-gas equipment for explosion protection is comparatively simple. As a rule, it can be safely assumed that in such plants sufficient inert gas to provide the protection desired is available in the flue gases going to waste up the chimney, but it is advisable to study thoroughly all the factors involved. Whether the gas is to be obtained from a source already available or from gas-producing apparatus to be installed with the other equipment, the following factors should be carefully considered: (1) Quantity of air which normally enters the machines or equipment, (2) reduction of oxygen necessary to prevent explosions, (3) oxygen percentage of the gas used to create the inert atmosphere, (4) quantity of gas required, (5) availability of the re-

quired quantity of gas, (6) the gas-conditioning equipment, if any, and (7) the gas-distributing system.

### *Normal Air Requirements*

THE volume of air entering the machines or other equipment into which it is planned to introduce inert gas should be determined in cubic feet per minute. In storage bins and in packing, conveying, or elevating machinery which do not receive a supply of inert gas with the feed or material coming from the mills, the normal air leakage or rate of air change per minute represents the volume of air to be considered. This determination can be made by actual measurement or by computation. Some manufacturers of machinery supply these data. In many grinding systems the air taken in by the mill represents the total quantity to be considered, since the natural drafts created by the operation of the mill place the air in the equipment following under slight pressure so that any leakage is outward and the infiltration of fresh air which would weaken the inert mixture is prevented. The attrition mill at the experimental plant required normally about 180 cubic feet of air per minute when no provision was made for recirculation. Some attrition mills have required as much as 1,200 cubic feet of air per minute.

These figures are given only to indicate the range which might be expected, and should not be used even as an approximation where an analysis of air requirements is being made. The speed of the mill, the type and quantity of material being ground, and the construction as well as the arrangement of the machine must all be considered. Actual measurements should be made or test data of the manufacturers should be used to determine the air requirements, and when any doubt exists it should be remembered that it is better to have too much inert gas than not enough.

### *Necessary Reduction of Oxygen*

THE percentage of inert gas or the reduction of oxygen necessary to prevent ignition or explosion of the material being handled should be accurately determined. Table 1 indicates the percentage to which the oxygen of the air must be reduced by the addition of inert gas in handling the materials listed. In other words, for each material sufficient inert gas must be introduced into the atmosphere within the mill to reduce the oxygen from approximately 21 per cent, the quantity normally present in fresh air, to the percentage given in the following tabulation:

TABLE 1.—*Percentage of oxygen necessary to prevent an explosion*

[a] Percentages determined by P. W. Edwards and R. W. Harrison.

| Material | Oxygen *Per cent* | Material | Oxygen *Per cent* |
|---|---|---|---|
| White dextrine (3) | 12 | Hard-rubber dust (5) | 13 |
| Wheat starch (3) | 12 | Cork dust [a] | 14.1 |
| Wheat-, corn-, or oat-elevator dust (3) | 14 | Pyrethrum-flower dust [a] | 15.5 |
| Pittsburgh coal dust (3) | 16 | Ground oat hulls [a] | 13.7 |
| Sulphur (5) | 8.5 | | |

The figures given above are the results of laboratory experiments and may be considered accurate for average plant-operating conditions. When any unusual or unexpected conditions exist, the percentage of oxygen should be reduced below the figure given in order to guard against possible dust ignitions.

### *Oxygen Percentage of Gas*

IF the oxygen or combustible content of the boiler-flue gas or other gas to be used in reducing the percentage of oxygen in the atmosphere within the milling system is not known, an analysis should be made to determine it. When boiler-flue gas is to be used this information can be obtained by analyzing representative samples with an Orsat or other apparatus suitable for gas analysis. A sufficient number of analyses should be made to obtain a fair average reading. When gas-producing equipment is employed, the quality of gas required under specified operating conditions is usually indicated and guaranteed by the manufacturers.

### *Quantity of Gas Required*

WITH the data obtained in the three preceding determinations, the quantity of gas necessary for explosion protection can be calculated.

Assume that the first determination showed that a certain mill or piece of apparatus requires 200 cubic feet of air per minute. Assume that the second determination showed that the oxygen percentage in the air used by the machine must be reduced to 12 per cent in order to prevent explosions of the material being handled. Assume that the third determination showed that the flue gas to be used in reducing the oxygen percentage contains 10 per cent carbon dioxide, 11 percent oxygen, and 79 per cent nitrogen. (*See bottom of column*)

Therefore in order to obtain 200 cubic feet of a mixture of gas and air containing 12 per cent oxygen by mixing fresh air and flue gas containing 11 per cent oxygen, it will be necessary to use 20 cubic feet of fresh air and 180 cubic feet of flue gas.

If carbon monoxide is present in the flue gas it will be necessary to reduce the oxygen percentage slightly below that indicated for the various materials listed in the tabulation in order to overcome the increased explosibility of the mixture caused by the presence of a combustible gas.

By means of the curves in Figure 5 the number of cubic feet of flue gas it is necessary to use with fresh air to obtain a mixture containing the desired percentage of oxygen can be determined without computation. Locate on the base line of the chart or the axis of abscissas the line marked 11, which represents the oxygen percentage of the flue gas to be used,

Let $x$=cubic feet of fresh air.
$y$=cubic feet of flue gas.
$a$=percentage of oxygen in the flue gas.
$b$=percentage of oxygen permitted in the mixture.
$c$=percentage of oxygen in fresh air.

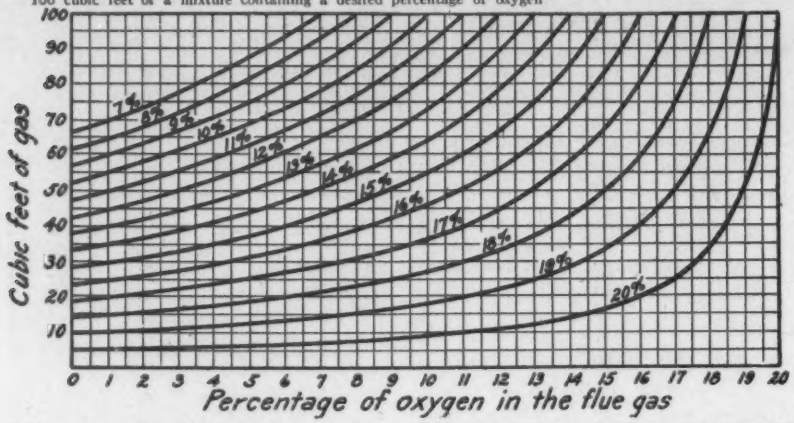
Then, $x+y$=total quantity of gas and air or, as assumed, 200 cubic feet.
$a$=11
$b$=12
$c$=21, the percentage normally present in fresh air.

Now, $cx+ay=b\ (x+y)$
Substituting the values assumed:

$21x+11y=12\ (200)$
$=2{,}400$ (1)
but, $x+y=200$
and, $11x+11y=2{,}200$ (2)

Subtracting (2) from (1)
$10x=200$
$x=20$
Substituting in $x+y=200$
$y=180$

FIG. 5.—Number of cubic feet of flue gas of various qualities it is necessary to use with fresh air to obtain 100 cubic feet of a mixture containing a desired percentage of oxygen




follow it vertically to its intersection with the curve marked 12 per cent, which represents the percentage of oxygen permitted in the gas-and-air mixture, and then read the figure at the corresponding height on the left margin of the chart or the axis of ordinates, which in this case is 90, the number of cubic feet of gas for each 100 cubic feet of gas-and-air mixture required. Since 200 cubic feet of the mixture is the quantity which it is assumed is necessary, multiply 90 by 2, which gives 180 cubic feet, the quantity of flue gas containing 11 per cent oxygen which must be used to obtain a gas-and-air mixture containing 12 per cent oxygen.

When it is impossible to control the entire quantity of air entering the machines or used in the process where the explosive dust is created or handled, the problem of obtaining an inert atmosphere is somewhat different from the foregoing. Under such circumstances the problem becomes one of determining the quantity of gas which must be added to the stated quantity of fresh air in order to form a mixture containing a percentage of oxygen low enough to prevent combustion or ignition of the product being handled, instead of determining simply the proportion of gas and fresh air required in a mixture which will prevent a dust explosion.

It is assumed, for example, that the dust is drawn or fed into a machine, hopper, or pipe line from an open room or chamber where it is necessary for employees to work. It is therefore impossible to maintain in this room an atmosphere deficient in oxygen. It is assumed further that 100 cubic feet of fresh air per minute enters the machine or other equipment with the dust or product being handled, 12 per cent is the point to which the oxygen must be reduced to prevent explosions, and 10 per cent oxygen is present in the flue gas used to create the inert atmosphere. As in the previous example:

Therefore in a system in which it is necessary to use 100 cubic feet of fresh air per minute 450 cubic feet of flue gas containing 10 per cent oxygen must be introduced in order to reduce the oxygen content of the mixture to 12 per cent.

The curves in Figure 6 show without calculation the quantity of gas required under various conditions. Under the conditions given in the foregoing example locate on the base line or axis of abscissas the line marked 10, which represents the percentage of oxygen in the flue gas to be used, follow it vertically to its intersection with the curve marked 12 per cent, which represents the percentage of oxygen permitted in the mixture, and read at the corresponding height on the left margin or axis of ordinates the number of cubic feet, in this case 450, which must be added to every 100 cubic feet of fresh air to provide an inert atmosphere.

Let $x$=cubic feet of fresh air.
$y$=cubic feet of flue gas.
$a$=percentage of oxygen in the flue gas.
$b$=percentage of oxygen permitted in the mixture.
$c$=percentage of ogygen in fresh air.
$x+y$=total quantity of gas and air.
In this case $x$ has been assumed to be 100 cubic feet.
Then, $100+y$=total quantity of gas and air required.
$a=10$
$b=12$
$c=21$, percentage normally present in fresh air.
Now, $cx+ay=b(x+y)$.
Substituting the values assumed,

$$21\times100+10y=12(100+y)$$
$$2{,}100+10y=1{,}200+12y$$
$$2y=900$$
$$y=450$$

*Quantity of Gas Available*

AFTER the quantity of flue gas required to provide an atmosphere which will prevent an explosion of the product being handled has been determined, if there is any question concerning the possibility of obtaining sufficient inert gas from the boilers or furnaces being used, the quantity of gas produced can be determined by actual measurement or calculated approximately from the results of the flue-gas analysis, the carbon percentage of the coal, and the quantity of coal burned, since—

Weight of air supplied per pound of coal =

$$\left(\frac{240}{CO_2+CO}\right)C,$$

and the weight of the products of combustion will be equal to the weight of air supplied per pound of coal plus the weight of the coal minus the ash. In this equation $CO_2$ and $CO$ are the percentages by volume of these gases as found in the flue-gas analysis, and $C$ is the percentage by weight of the total carbon in a pound of coal. Since each pound of flue gas at room temperature occupies approximately 13 cubic feet, the weight of the products of combustion obtained by this formula multiplied by 13, and this result multiplied by the number of pounds of coal burned per minute gives the quantity of flue gas available. It should be remembered that the volume increases with a rise in temperature, and if the gas is to be used at higher temperatures the weight of the products of combustion should be multiplied by the number of cubic feet in a pound of the gas at the desired temperature. Where only a rough estimate is necessary it may be considered that 1 pound of fuel will produce 200 cubic feet of flue gas.

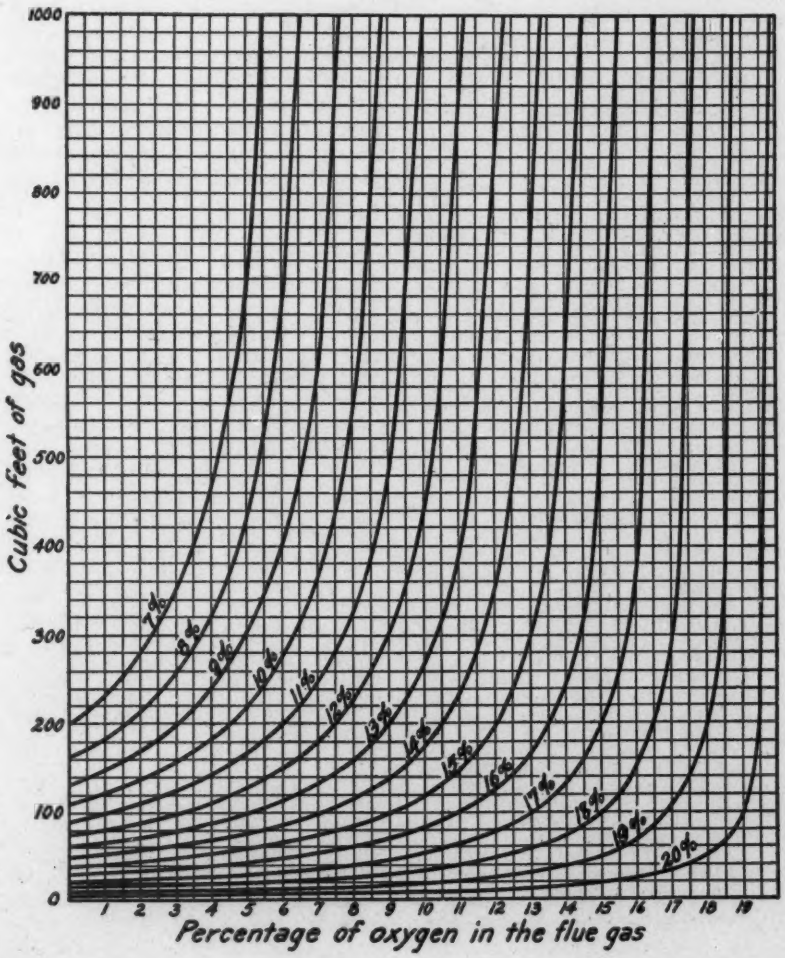
In plants where boiler-flue gas is not available, determination of the quantity of inert gas required will serve as a basis on which to estimate the size of the gas-producing equipment required.

The necessity of using conditioning equipment depends entirely upon the

material being handled. In the experimental plant and in factory installations for hard-rubber grinding and cork grinding no conditioning equipment has been found necessary. If flour or any other easily contaminated food product is being handled and conditioning apparatus is necessary to clean the flue gas, a spray washer or coke scrubber can be constructed and placed in the line, or the necessary equipment can be purchased from manufacturers of air-conditioning equipment, who will furnish or design and build apparatus to condition the quantity of gas required for the various machines. When spray washers are used, about 400 cubic feet of gas per minute can be cleaned in each square foot of cross-sectional area through the spray chamber. Approximately 5 gallons of water are required to clean 1,000 cubic feet of gas per minute. When cleaning apparatus is used, provision can be made to remove or neutralize during the washing any acid fumes in the gas and thus prevent any damage which they might cause to the equipment or distributing pipes.

Equipment for distributing the gas to the various machines consists of a fan, blower, or compressor, and piping. In the experimental plant a positive-pressure blower and iron pipes were used. In most of the industrial systems an exhauster fan of the ordinary type, and galvanized or plain sheet-metal pipes have sufficed. The selection of the size of the fan should be left to the manufacturers of the fan since they have test data which enable them to select the size which will meet the requirements. The piping should be such that the cross-sectional areas of the various branch lines leading to the machines are proportional to the quantity of gas they are to carry. The combined area of the branch pipes must be equal to the cross-sectional area of the trunk line carrying the gas from the fan. It will probably be better under certain conditions to use a compressor and small pipes to carry the gas to the machines. Here again the compressor and the size of the piping depend upon the quantity of gas to be used and should be based on the manufacturer's ratings. In every system it is advisable to have valves in all branch pipes in order to regulate the flow of gas to any particular machine.

FIG. 6.—Number of cubic feet of flue gas of various qualities it is necessary to add to 100 cubic feet of fresh air to obtain a mixture having a specified percentage of oxygen




### *Conclusions*

AS a result of the experimental work and the observations made during actual operation of inert-gas systems in industrial plants, the value of inert gas as a means of preventing dust explosions has been so well demonstrated that its use should be seriously considered wherever an explosion hazard exists which can not be controlled through the elimination of the dust cloud or the source of ignition. The use of inert gas is particularly recommended in grinding, bolting, or any phase of a manufacturing process where an explosive dust is produced or handled within an inclosed piece of equipment.

Although the investigation described in this bulletin was confined to the determination of the value of inert gas as a means of preventing dust explosions during the grinding of oat hulls, the experimental work suggested many other possible uses for inert gas and additional lines of investigation.

Two fires within the experimental plant were extinguished by opening the valves and flooding the inclosure with flue gas. A modern development of this fire-extinguishing principle has been the storage of compressed inert gas in tanks with distributing pipes which lead to the most likely sources of fire and quick-acting valves to release the gas. Such equipment has been employed for fighting fires on ships and has been adapted for factory fires, especially in factories where flash fires are liable to occur during the use of oils, solvents, or other inflammable liquids. It has been used also as a means of extinguishing fire in mines (7). A portable extinguisher consisting of a small tank of carbon dioxide under pressure has recently been placed on the market.

Inert gas, especially carbon dioxide, has many advantages over other fire-fighting mediums since it will not injure metals, fabrics, food products, or other perishable materials. It does not freeze or deteriorate, and as it does not conduct electricity it can be used to extinguish fires in electrical equipment. Carbon dioxide leaves no residue, which is a distinct advantage, since frequently the residue or dam-

*(Continued on Page 31)*

# Centenary of Saco Mutual

## *Prominent Mutual of Maine Passes the Hundred Year Mark and its Flourishing Present Points to a Prosperous Future*

IN the history of Mutual Insurance, the early years of 1800 seem to have been prolific, and hundredth anniversaries of Mutual companies are appearing with pleasing frequency.

The latest centenary of which we have heard, is that of the Mutual Fire Insurance Company of Saco, Maine. Its records have unusual interest and we have taken the liberty of culling a number of informative paragraphs from the handsome and well written brochure recently issued in celebration of the passing of the hundredth year since the company's organization.

"THE 3000 or more inhabitants of Saco had little need for the formal notice in the *Maine Palladium* of March 25, 1827, to call their attention to the first meeting of the newly incorporated Mutual Fire Insurance Company of Saco. For days the town had been discussing the pros and cons of mutual fire insurance, since Capt. Robert Rogers had called the leading citizens together to make application for a charter.

"The oldest citizens still remembered the French and Indian War (1755 to 1763), the burning of unprotected houses and the stockaded garrisons built to prevent a surprise attack of the savages. A large number of citizens were veterans of the Revolutionary War and remembered the destruction of property in the neighboring states. Only 13 years before, during the War of 1812, the Britisr warship *'Bulwark 74'* had sailed into the bay, resulting in the destruction of several ships and the looting of Capt. Thomas Cutts' store, —the British commander being under orders to destroy the place.

"With such a history of constant apprehension of property destruction, there is small wonder that the inhabitants welcomed an opportunity to insure their property against loss by fire.

"The nightly gathering at the taproom of Cleave's Hotel could talk of nothing else. And discussion waxed hot as to just how the plan would work. It developed that no one knew the exact procedure of taking out insurance, except that all had heard of the Philadelphia and New York companies and knew that they were successful. With true American enterprise, the leaders had applied for a charter without knowing exactly what to do after they got it.

"Captain Rogers, however, was not a man to proceed blindly. While he was in Portland securing the charter, he had instructed Samuel Pierson, another of the incorporators, to get in touch with the Worcester (Mass.) Mutual Fire Insurance Company, which had been in existence for four years, and secure a copy of that company's by-laws and policy form.

"At four o'clock on the afternoon of March 29, 1827, a group of rather serious-minded men met in the 'hall' of Cleve's Hotel to undertake an experiment in fire insurance. Capt. Robert Rogers addressed the group and explained the purpose of the meeting and read the charter he had obtained from the State of Maine. Captain Rogers was elected chairman; Samuel Pierson, clerk; and four members — Isaac Emery, John Fairfield, John Shepley, and Reuben H. Green—were appointed a committee 'to draft by-laws, rules, and regulations, and classification of risks and report the same at the next meeting.'

"The meeting was adjourned to April 10, when a complete set of by-laws were adopted. Captain Rogers was elected President, and Samuel Pierson, Treasurer, in addition to his former capacity of clerk. Seven directors were chosen, the list including most of the representative leaders of Saco: John Fairfield, Samuel Hartley, Jonathan King, Jonathan Tucker, James B. Thornton, Isaac Emery and Daniel Deshon.

"THE Mutual Fire Insurance Company of Saco, being the first of its kind in Maine, had many obstacles of prejudice and ignorance to overcome. The legislature, in writing the Company's charter, inserted a clause which threatened to wreck it before it even got started. This clause, inserted perhaps by the shrewd Yankee legislators just to make doubly sure that this 'new fangled scheme' caused no harm to the State, was to the effect that 'no policy of insurance shall be made until the sum subscribed to be insured shall amount to *seventy thousand dollars.*'

"Only the optimism of a true pioneer spirit would attempt to hurdle this barrier, for $70,000 was an enormous sum to a small community where a man owning a house valued at $2,000 or $3,000 was considered well off. The average amount of the first 25 policies was $2,000, so it can be seen that a large proportion of the property owners of both Saco and Biddeford had to be convinced of the feasibility of the scheme before the new Company could demonstrate its worth.

"THE large-visioned founders of the Company buckled down to their task and by Nov. 8, 1827, the minimum amount of insurance was pledged and the first policy issued. Policy No. 1 was issued to the Saco Manufacturing Company, insuring for seven years that Company's miscellaneous buildings to the amount of $6,300 in consideration of a cash premium of $55.50 and a note for $257.50 with interest, to be held as a reserve for losses or expenses. This was the banner policy of the first two years, the others ranging in amounts from $3,000 or $4,000 down to $500.

"OFFICES had been secured over the Manufacturers Bank for $30 a year, and Samuel Pierson, as secretary of the Company, kept office hours there from 9 to 12 A. M. and from 2 to 4 P. M. when business required it. * * * In promoting the Company, Capt. Robert Rogers made full use of his forceful personality in getting subscriptions for the first $70,000 of insurance. * * *

"Captain Rogers was a builder, an organizer. His tremendous energy impelled him to build a full-fledged insurance company over night. But he would have built too fast for the community. As it was, his organizing ability was used to get the Company on its feet, and then a more conservative line of presidents was chosen to carry on the business through the coming years.

"The following year, 1830, a disastrous fire destroyed the Cotton Factory on the Island. This mill had just been completed at a cost of $200,000 and was furnishing employment to 500 of the inhabitants of Saco and Biddeford. The Mutual

Fire Insurance Company, however, suffered no loss, as it held policies only on the outlying dwelling houses and store properties owned by the mill. The loss was a severe blow to the towns, though, for the destruction of the mill threw a large proportion of the inhabitants out of employment.

"FIRE insurance today is a more or less exact science, with generally accepted rules and customs. But these early pioneers into insurance fields had to work by the 'trial and error' method. They *made* insurance as it is to-day.

"In 1834, their experience proved to them that radical changes in policy forms would have to be made. The first loss sustained by the Company had occurred that year. It was on Dr. Carne's house in Biddeford, and was caused by careless disposal of hot ashes from a fireplace. Accordingly, a rule was made that when a loss occurred in a house unprovided with a brick or stone vault or receptacle for ashes, 25% should be deducted from the sum insured.

"In 1839 another problem came up. A house in Berwick, belonging to Nathaniel Grant, was struck by lightning. This ever-present and unavoidable source of fire had never been figured into the risk. Although no 'lightning clause' was written into the policies of these early days, the directors acknowledged the implied obligation and awarded Mr. Grant a gratuity of $200 which partially reimbursed him for the loss sustained.

The year 1844 was a hard one on the Company. A $2550 loss on the store of Parks & Harris in Berwick was paid. While this did not endanger the Company's solvency, yet it did wipe out a considerable portion of its surplus. This same year the stock insurance companies appointed agents in the vicinity of Saco. Competition for business became keen, but the directors refused to lower their risk standards to get additional business. While the Company grew very little in the next six years, the business on its books was maintained at high quality.

"The tide turned in 1850. The directors' stubborn insistence on a conservative selection of risks at last won friends, when the more liberal policies of competing companies had been tried. Josiah Calef, president for almost a quarter of a century, wrote the year's report in the secretary's minute book, rejoicing in the improved financial condition achieved.

"But he did not live to see the fruit of his careful planning. He resigned the presidency in 1852, and by 1856 became so feeble that he had to relinquish all active work.

"FOR 20 years the records show steadily increasing reserves which, by 1869, became so large that the directors desired to make a distribution by declaring a dividend. At

**GEORGE A. NUTTER**
*Secretary-Treasurer of the Mutual Fire Insurance Company of Saco, Maine*

a special meeting held on Sept. 27, 1889, a dividend was declared to policyholders in proportion to the amounts of their policies.

"During all these years Saco and Biddeford had been steadily growing under the stimulous of the highly profitable manufacturing enterprises in which most of the directors of the Mutual Fire Insurance Company were interested. On the Island, at the site where the Saco Manufacturing Company had burned in 1830, the York Manufacturing Company, a new enterprise was built. By 1880 it was manufacturing 9,000,000 yards of colored cotton goods per year.

"DURING years of industrial progress the Mutual Fire Insurance Company developed into a self-sufficient corporation with reserves more than ample to pay any conceivable loss. Once in this enviable position, the Company began to pay substantial dividends in spite of the low rates charged. As has been the policy always, only the better class of risks were taken and the correspondingly small losses enabled the members to carry insurance at negligible cost.

"THE Company on its own initiative pioneered in matters of fire-fighting equipment for the towns. In 1850 it made a substantial contribution to secure water from the reservoir for fire-fighting purposes. The directors were instrumental in organizing the famous fire engine companies whose enthusiasm and skill went far to make the old 'hand tubs' into fire equipment hardly less efficient, in a limited area, than modern motor apparatus.

"ROUNDING the three-quarter century mark, the Company passed the opening of the Twentieth Century.

"In the directors' record book of monthly meetings under the date of August, 1907, there is the cryptic notation, 'No meeting.' On August 15th of that year, in the height of the summer season, a dozen mammoth hotels and scores of cottages at Old Orchard Beach were burned to the ground. Over 20,000 people were thrown upon the towns of Saco and Biddeford, having lost all of their property and most of their clothing in the fire. In this conflagration, as in previous ones, the Company's losses were negligible, owing to the fact that property so located did not come under the preferred risk policy maintained by the directors since the foundation of the Company.

"Late in the year 1907 new offices were taken, upstairs, in 'the new bank building.' This was a year of financial panic throughout the whole country, but it marked the beginning of the growth of the Company that has been increasing with steady pace. The growth in the amount of insurance in force was small at first, but by 1916 it was increasing at the rate of $100,000 a year. Then the United States entered the World War. In August of that year the Secretary-Treasurer, A. G. Prentiss, died and the present Secretary-Treasurer, George A. Nutter, was elected.

"Although a very young man for such a responsible position, he soon proved his fitness. In 1919 the increase in insurance had mounted to a half million dollars a year. Two years later it was increasing at the rate of a million dollars, necessitating a move to still larger offices to handle the business. Recently the increase has mounted to the two-million-dollar mark, with the same careful selection of risks.

"The marked, steady growth of the Company's business and consequent service requirements has made advisable the erection of a modern Home Office Building of its own — a structure of ample accommodations to care for present and future needs.

## Farm Fires

*(Continued from Page 15)*

"We have 220 members who paid in $25 each. Our report for last year (1927) shows nine fires attended with the following results:

| | |
|---|---|
| Property endangered | $34,300.00 |
| Total Insurance | 18,150.00 |
| Total Loss | 7,762.83 |
| Property Saved | 26,537.17 |

"There were 14 runs in 1926," Mr. Bliss continues, "and the property saved ran about the same average per fire as in 1927."

Putting together the three rural fire protection associations — already described—we have a total investment in equipment of less than $20,000, and yet it, plus quick community action, was largely responsible for saving approximately $75,000 worth of property in a single year. Judging from such figures, it appears that there is no investment a rural community can make that will pay bigger dividends than an investment in adequate fire-fighting apparatus.

And furthermore, if every rural community in the United States were as well prepared to instruct farmers in fire prevention and to fight fires as these three Michigan communities, the fire damage to farm property would be reduced $100,000,000 a year, not to mention the saving of hundreds of human lives.

PERHAPS, even a better example of town and country cooperation in fire fighting is the story of Durand, Illinois.

"Our little community like all other rural communities," says T. H. Young, chief of the Fire Department, "must first suffer loss by fire before we feel the need of protection. After we suffered a number of losses we decided that something must be done and of course the first question to be solved was the question of finance. We decided to take in the rural district within a radius of five miles and give the farmers a chance to subscribe toward the purchase of fire fighting equipment. After due explanations they responded very liberally and we were able to raise about $10,000.

"The equipment we purchased," Mr. Young continues "consists of a 500-gallon per minute pump mounted on chassis built by the manufacturer. This pump is run from the motor that drives the truck. We also have two copper tanks with a capacity of 70 gallons each which contain water. These tanks are coupled up with the pump and the pump is so constructed that when pumping from these tanks, which we call booster tanks, the capacity is cut from 500 gallons per minute to 16 gallons per minute. This water is pumped through a small hose, the object of this being that when called to a farm where no water is available we have 140 gallons of water to start on. Then we can call for volunteers and form a bucket brigade to carry water to the booster tanks. In this way we have water under pressure. We also carry

**C. WALLACE HARMON**
*President of the Mutual Fire Insurance Company of Saco, Maine*

1,000 feet of regulation 2½-inch fire hose which is used when a farmer is located within 1,000 feet of a stream or pond. We also carry small hand extinguishers, a 45-foot extension ladder and roof ladders which makes the unit a complete fire fighting outfit.

"Our second outfit consists of a chemical equipment mounted on a truck. This truck has two 45-gallon chemical tanks together with hand extinguishers and ladders.

"We have on file in the fire station a map of each subscriber showing the location of his buildings together with the source of all available water. When John Jones calls and says his house is on fire the Captain grabs all the maps in the J-pigeon hole and has time to study the location of John Jones' water supply before he reaches the place, whereas if no map were found the Captain would have to wait until John Jones was found before action could be started on the fire.

"Our equipment has been in service now a few weeks over two years and we have been called to 38 fires, 36 of which have been farm fires. We have met all conceivable kinds of fires from simple roof fires to barns on fire from spontaneous combustion and the results have been more than pleasing. I do not mean to leave the impression that we were able to extinguish all fires to which we have been called, but we have been able, in every case, to confine it to the original building."

NOT every community will find it practical, perhaps, to follow the town and country cooperative method as has proven so successful in Michigan and Illinos. That being the case, other methods are available. We have been told of associations being formed with the school district as the unit and the consolidated school as the headquarters. The money for buying the fire-fighting apparatus is secured through popular subscription. The truck is housed on the school building premises and a janitor is hired who can qualify as an efficient fireman. At a call for help, on the telephone installed in the building, he with other helpers proceeds as any city fire-fighting crew.

Where there is no consolidated school, a community house located in the center of a farm community can be used to good advantage. In some cases, the popular subscription method of raising money among farmers has not been successful because the farmers lacked the money.

Some enterprising communities have surmounted this difficulty by getting each farmer to donate a few bushels of one of his crops, a calf, a few pigs, or some eggs. Then on a certain day, a big rummage sale is advertised, and the produce is all sold for cash.

So far, I have discussed only the possibilities of community cooperation in reducing fire damages. Fully as important is the individual farmer's responsibility in reducing fire damage through adequate preparation for fire fighting.

Fires will start in spite of all precautions and for that reason the farmer and home owner should have some equipment handy for extinguishing them before they gain enough headway to be beyond control. Of course, hand fire extinguishers are extremely impor-

tant. Several of these about the premises are a good investment.

We read recently of the following case: A fine home, barn and other buildings were completely destroyed by a fire which started in a small shed. The farmer was doing some work in the shed and saw the fire start. He could have put it out with a small one-quart extinguisher but he didn't have one. He rushed to the pump and secured a bucket of water but by the time he reached the fire it had gained such headway that not even a city fire department could have stopped it.

As the editor of the Indiana Farmer's Guide recently said, "In planning to prevent fires and reduce fire losses, it is well not only to eliminate all fire hazards possible but be prepared to fight fires when they do start. This preparation includes the possession of extinguishers, and ladders with which to reach the roofs of buildings. These pieces of equipment should be where they may be available at a moment's notice, for when a fire starts time is a very important factor in determining whether it will be quenched or become an instrument of destruction of property and even of life."



**Flattering the Jury**

Young Lawyer (addressing jury): Unfortunately the prisoner has always had a weakness of relying upon thieves and scoundrels. He puts implicit faith in you, gentlemen.

*—Pathfinder, Washington, D. C.*

**Got His Wish**

Judge: "What have you to say for yourself?"

Prisoner: "I say I wish I was in a place where there are no traffic cops."

Judge: "Granted! Thirty days!"

**Tut, Tut, Judge**

Judge: "Speeding, eh? How many times have you been before me?"

Speeder: "Never, your Honor. I've tried to pass you on the road once or twice, but my bus will do only 55."

*—Collingwood Bulletin.*

**Another Bird**

Rastus was before the Judge on a charge of stealing poultry.

The judge: "Rastus, you are here on a charge of stealing chickens. Did you steal this man's chickens?"

Rastus: "N—n-no suh."

The Judge: "And you didn't steal his roosters?"

Rastus: "N—n-no suh."

The Judge: "Case dismissed."

Rastus: "Thank you, Judge. But if you had mentioned ducks, you sure would have had me."

*—Vancouver Province.*

## Inert Gas

*(Continued from Page 27)*

age caused by the extinguishing medium constitutes the greater part of the total loss. These advantages indicate that there is a promising field for inert gas as a fire-fighting medium as well as for explosion prevention.

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**Mixed**

Two brothers were being entertained by a rich friend. As ill luck would have it, the talk drifted away from ordinary topics.

"Do you like Omar Khayyam?" thoughtlessly asked the host, trying to make conversation. The elder brother p'unged heroically into the breach.

"Pretty well," he said, "but I prefer 'Chianti.'"

Nothing more was said on this subject until the brothers were on their way home.

"Bill," said the younger brother, breaking a painful silence, "why can't you leave things that you don't understand to me? Omar Khayyam ain't a wine, you chump, it's a cheese."

**The Reason**

Judge: But why do you wish the divorce?

Fair plaintiff: Well, I'm thinking of getting married.

## Adjusting

*(Continued from Page 7)*

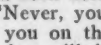
ance. It seems to him that if there should be a question of apportionment that it is a matter which the companies should decide among themselves. He does not understand any apportionment under which he cannot collect his full loss.

Conditions such as this are trying. It is difficult for him to understand that he cannot collect his full loss. He carried insurance, paid his premium, has suffered a loss—and now can't collect it. He tells his friends and neighbors and they don't like it, all because someone in writing the insurance was not careful to eliminate non-concurrency.

There are times when the adjuster finds attached to the policy a form as long as the moral law, a form which someone thought was bullet-proof. It covers so many things that it would not seem possible there could be anything under the sun not included. In attempting, however, to give the assured a broad coverage there crept into the form ambiguities and phraseology subject to more than one interpretation. In attempting to cover in detail as much as possible, the most important thing in connection with the individual needs of this particular assured has been omitted. The adjuster construes the contract the best he can, the assured disagrees, states that it was not his intention to have it thus and so at the time the insurance was purchased.

So conditions such as these with respect to policy contracts bring about grave problems. To those who have a hand in the underwriting side of the business, it may be said that the difficulties of the adjuster may be alleviated by correcting these non-concurrencies and ambiguities before losses occur. How to do this may be a hard problem, but it is nevertheless a prime essential.

(To be continued)



**No Literary Hash**

Book Agent: "Have you a Charles Dickens in your home?"

Steve Kupfer: "No!"

B. A.: "Or a Robert Stevenson?"

S. K.: "No!"

B. A.: "Or a Gene Field?"

S. K.: "No, we ain't, and what's more, if you're looking for them fellows, you might try the boarding-house across the street."

**A Tearful Tale**

"What a sad-looking store."

"Why, because it has panes in the windows?"

"No, the books are in tiers."

*—Michigan Gargoyle.*

The Threshold of Saving

# Mutual Insurance

Mutual Insurance involves more than a return of that portion of premiums which is not required for the payment of losses, operating expenses, and for the accumulation of reserves.

It involves an obligation on the part of policyholders to be mutually careful in avoiding losses.

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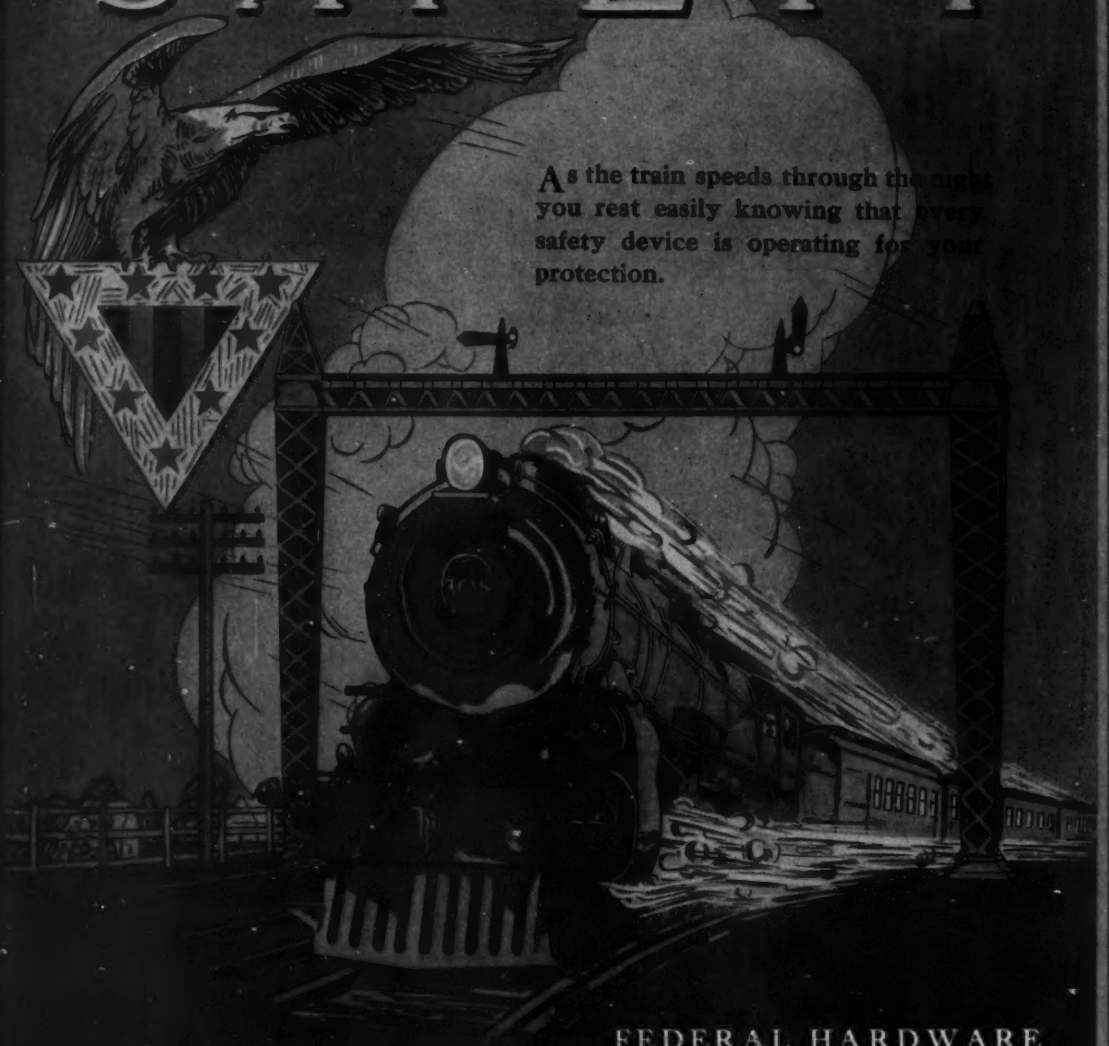
# SAFETY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Owatonna, Minnesota

Dividends Returned to Policy Holders
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# PROTECTION

# Factors of Safety - - - - - - - - - - in Your Insurance

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It is well managed.

It has paid every just loss fairly and promptly.

It has cash assets of over $700,000.00 and net cash surplus of over $250,000.00.

It has legal reserves of over $450,000.00.

It charges a premium rate adequate to pay all losses and expenses, and returns to policyholders or retains for their benefit in its reserves and surplus that portion of their premiums not needed for the payment of losses and expenses. Losses paid and dividends returned to policyholders in 1927 exceeded $715,000.00.

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James S. Kemper, *Manager*

Pantheon Building, Chicago, U. S. A.

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*Dividends to Policyholders in 1927 - - - - $294,859.04*